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"Attitudes and perceptions of Saudi students towards their non-native EMI instructors"

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Abstract

This thesis examines undergraduate students' attitudes toward non-native English speaker (NNES) instructors in an EMI context in Saudi Arabia. It also investigates their perceptions of the speech of those instructors, in terms of three speech constructs: intelligibility, perceived comprehensibility, and perceived foreign accentedness (ICA) (see Munro and Derwing, 1995). Globalisation has contributed to the worldwide internationalisation of higher education (Graddol, 2006). With this trend, English has been increasingly used as the medium of instruction for content-based courses at the higher education level (Dearden, 2014), and NNES instructors are teaching in English instead of their first languages. NNES often speak with an accent, which has long been recognised as a marker of social identity, and attitudes towards certain varieties of English reflect attitudes about the speakers of those varieties (Garrett et al., 2003). Little research has been done on NNES English medium instruction (EMI) instructors and the students' attitudes and perceptions towards them in terms of the ICA. Inbar-Lourie and Donitsa-Schmidt (2020; 2013) and Karakas (2017) have demonstrated students' preferences for and beliefs about native English speaker (NES) instructors in comparison to NNES/local instructors. However, instructors in the Saudi EMI context are rarely NES and are more typically local (Saudi), from the wider Arab region, or South Asian. This study contributes to the existing literature on EMI by extending the understanding of students' implicit and explicit attitudes towards NNES EMI instructors from different L1 backgrounds, and by putting on display their perceptions of these instructors.

The current study used exploratory sequential mixed methods. In the first (qualitative) phase, four semi-structured interviews and two focus groups were used to explore the experiences of EMI students with their NNES EMI instructors and to identify factors relevant to attitudes. The first phase fed into the measures of the second (quantitative) phase, which employed an Implicit Association Test (IAT) to measure implicit attitudes, an attitudinal questionnaire to measure explicit attitudes, and speech perception experiments to measure the three speech constructs. Students' attitudes and

perceptions were measured towards Saudi, Egyptian, and South Asian instructors, and a total of 110 participants responded to the online study by using Qualtrics platforms.

The combinations of methodologies revealed consistent patterns in the Saudi students' implicit and explicit attitudes towards their NNES EMI instructors. Measures of IATs revealed a preference towards Arab instructors and associated them with positive teaching traits, especially Saudi instructors and to a lesser extent Egyptian instructors. Explicit attitude findings aligned with the implicit results: the Saudi instructors were the most preferred, followed by the Egyptian instructors, and lastly, the South Asian instructors. It was evident from the interviews and the explicit attitudes questionnaires that use of Arabic alongside English in the classroom played a major role in the appeal of Arab instructors. Although respondents in the qualitative phase acknowledged that the evaluation of instructors should be in accordance with subject-level expertise, many were ready to offer opinions on accent and comprehensibility. In the speech perception measures, South Asian instructors were perceived to be the most accented. However, the more objective measure of intelligibility showed that respondents had the same difficulty understanding Egyptian voices as South Asian voices.

The research concludes that even if Saudi participants expressed negative attitudes against a certain instructor, this does not always imply that they are unable to comprehend them. Furthermore, the results of this study indicated that a favourable attitude does not necessarily entail high intelligibility and comprehensibility. There was a more favourable attitude towards Egyptian instructors than Indian/Pakistani instructors, though they were rated as being less intelligible and less comprehensible than Indian/Pakistani speakers. Therefore, listeners' language attitudes need to be carefully examined before reaching a conclusion, particularly when it comes to the speech constructs, for example, listeners may react adversely to particular accents and thus declare them to be incomprehensible even though the accent does not impair their intelligibility. The findings offer implications for different stakeholders at the university, including students, instructors, and university decision-makers. For university students, it is recommended to increase students' awareness regarding the

discriminatory and prejudiced attitudes to NNES instructors and their accents within EMI contexts.

Conference presentations

Alshehri, A. A. (2020, 22nd November). *Saudi university students' attitudes towards their multiple non-native EMI instructors* [Conference session]. 68th Studentische Tagung Sprachwissenschaft (StuTS) Berlin, Germany.

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Declaration

I declare that this thesis is my own work and has been composed by me. The thesis has not been submitted for any other academic degree or professional qualification. The current thesis is a result of my work, unless otherwise indicated in references or acknowledgements.

Abeer Alshehri

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Dedication

This thesis is dedicated to my beloved mother,
Thanwa Mubark Alshehri (1943-2018),
who never got to see this endeavour ends.

Acknowledgement

First and foremost, I would like to express my deepest gratitude to the Creator (Allah), the Almighty for the support, strength, health, and patience given to me to reach the completion of this thesis.

My sincere thanks go to my supervisor, Dr. Claire Cowie, for her guidance, personal encouragement, and her support during my time of grief following the death of my mother. This work would not have been accomplished without her advice and patience. I would also thank Dr. Nicola Galloway for inspiring my interest in the field of EMI and for her constructive feedback at the beginning of my study that made me think critically about my own research. My appreciation would also extend to my examiners Dr. Jill Northcott and Dr. Kari Sahan for their valuable and insightful feedback.

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for becoming my best friends while you are still children; for your patience as you learnt to accept my frustrated phrases ‘I am busy’ and ‘I cannot play with you.’

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Also, my thanks go to my friend Hawra, my officemate. Thank you for the countless encouraging words during times when I was feeling down, for the treats you used to bring to office to cheer me up, and for being there for me and my children when I tested positive with COVID-19.

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List of abbreviations

AMI	Arabic Medium Instruction
EAP	English for Academic Purposes
EFL	English as a Foreign Language
ELT	English Language Teaching
EMI	English Medium Instruction
ESL	English as a second language
ESP	English for Specific Purposes
EG	Egyptian
FGs	Focus groups
ICA	Intelligibility, Comprehensibility, Accentedness
IN/P	Indian/Pakistani
INT	Intelligibility
L1	First Language
L2	Second Language
MGT	Matched Guise Technique
MOE	Ministry of Education
MOI	Medium of Instruction
NES	Native English Speaker
NNE	Non-Native English
NNES	Non-Native English Speaker
NS	Native Speaker
NNS	Non-native speaker
PC	Perceived Comprehensibility
PFA	Perceived Foreign accentedness
SA	Saudi Arabia
SIT	Social Identity Theory
UAE	United Arab of Emirates
VGT	Verbal Guise Technique

Chapter One: Introduction

In recent decades, learning English as a second (ESL) or foreign (EFL) language has been increasingly significant as a means of achieving economic growth by countries aspiring to join the developed nations. With English being the dominant international language of communication in many spheres, education systems throughout the non-Anglophone world have responded by adopting English as a medium of instruction (EMI). Gradually, yet rapidly accelerating, the transition from teaching content subjects through the medium of the first language (L1) to EMI has become most evident in higher education (Curle et al., 2020b; Macaro et al., 2018), and higher education in Saudi Arabia (SA) has joined this trend. The perceived benefits of learning English has pushed the Saudi government to apply 'internationalisation' and to introduce EMI. With globalisation, SA has endeavoured to pursue economic reforms through a variety of programmes aimed at increasing national involvement in global markets and diversifying its resources rather than relying solely on the oil industry (Mitchell & Alfuraih, 2017; Vision 2030). The adoption of EMI in higher education in non-Anglophone countries has been prompted by numerous driving forces (Galloway et al., 2017), but in the context of SA, EMI is closely linked with top-down policy to improve the English proficiency of university students to meet the country's vision and economic development goals.

The implementation of EMI in Saudi universities and the lack of local content instructors increased the need to recruit international instructors (Louber & Troudi, 2019), who are recruited from diverse linguistic, cultural, and racial backgrounds. As SA has difficulty recruiting native English speakers (NES) instructors, the country often resorts to recruiting non-native English speakers (NNES) instructors mostly from the neighbouring Arab region and South Asia (more in Chapter Two). Thus, in keeping with the call in the field of English language teaching (ELT) for a more globalised approach that acknowledges the status of English as a lingua franca, it is equally important in the context of EMI to examine from a sociolinguistic point of

view how students respond towards current use of English of their instructors where NNES environments are predominant. Björkman (2018) stresses that each EMI context is a unique case that needs to be recognised within the sociolinguistic and educational contexts of each country. Added to that, Galloway et al. (2017) note that 'there is no one-size-fits all approach to EMI and an in-depth understanding of both the context and the needs, and attitudes, of key stakeholders is essential to ensure the successful implementation of EMI' (p. 34). Therefore, a critical discussion is needed of how local homogeneous Saudi students perceive their heterogeneous NNES content instructors, and of the role that the Saudi context may be playing in perpetuating (or evoking) attitudes associated with NNES instructors as a consequence of their position as expatriates in SA.

Dichotomy between NES and NNES

Teaching content subjects in English is not new, but what is particularly concerning about the global spread of EMI is the promotion of Native Speaker (NS) and Non-Native-Speaker (NNS) of English and evaluations of NNES according to NES norms. The dominance of 'native speakerism' ideology and the issue of attitudes toward NNS instructors was brought to academic prominence by Medgyes (1994). In his pioneering work, Medgyes sought to demonstrate that NNES instructors could be just as effective and competent in the classroom as their NES colleagues in ELT. Numerous other researchers have followed his lead in replicating and extending his early work. These studies include research investigating students' attitudes towards NES and NNES English instructors (Lasagabaster & Sierra, 2002; Ling & Braine, 2007; Moussu, 2006) as well as research comparing the pedagogical strengths and limitations of NES and NNES instructors (Árva & Medgyes, 2000; Benke & Medgyes, 2005; Llurda, 2005).

The debate between NES and NNES dominating the field of ELT continued to gather momentum in the emerging field of EMI (e.g., Inbar-Lourie & Donitsa-Schmidt, 2020; Karakas, 2017; Sahan et al., 2022). Although both English language studies and EMI use English as a teaching medium, the expected learning outcomes are rather

different. Language studies anticipate linguistic achievements, EMI programmes employ language to accomplish primarily content-related objectives (Inbar-Lourie & Donitsa-Schmidt, 2020). Thus, the researchers have anticipated that the students' preferences towards NES in EMI might be more flexible. Most of the studies of instructor preferences in EMI focus on the students' attitudes and perceptions towards NES in comparison to NNES and acknowledge the presence of nativeness. Consequently, these studies have not paid sufficient attention to NNES instructors with different linguistic and cultural backgrounds, despite the relatively common situation of only NNES instructors in EMI contexts.

1.1 The rationale and research problem

Besides academic reasons for investigating students' perceptions of NNES instructors in SA, there are also personal reasons for the choice of this subject. My professional experiences as an EFL instructor and my observations of how Saudi students regard the non-Saudi and non-Arab instructors prompted me to pursue this subject. As a local NNES instructor in a Saudi public university, working with other NNES instructors, I noted how instructors with diverse backgrounds did not enjoy the same level of preference as local instructors. These personal experiences have been corroborated by multiple conversations I have had with students who expressed dissatisfaction with the way certain NNES instructors taught content courses. Thus, the question arises as to whether these disinclinations are attributable to expatriate instructors' qualifications, their teaching styles, and their use of English, or to students' prejudices against instructors and countries of origin, which are indexed by their accents, or to a mixture of both. These personal experiences have inspired my interest in this research field, leading me to pursue this subject as the focus of my current research endeavour.

Moreover, previous research depicts instructors in a black and white picture as either NES or NNES instructors and tests perceptions accordingly (see Inbar-Lourie & Donitsa-Schmidt, 2020; Karakas, 2017; Qiu & Fang, 2019). However, in a context where NES instructors are scarce and NNES instructors are abundant, students' attitudes and perceptions towards different NNES EMI instructors may become more

pronounced. Some of those NNES expatriates are prominent in the Saudi context, where there is considerable social distance between nationals and expatriates. This in turn negatively affects their communications and social engagements. The vast majority of expatriates in SA work in low-skilled professions that locals avoid (Varshney, 2018), creating a social divide between them and SA citizens, and boosting citizens' sense of superiority and expatriates' sense of inferiority regardless of the job they hold. Listeners recognise where the NNES are from on the basis of their variety of English and thus associate them with stereotypes of those expatriates in SA society. Previous research, such as Zhang (2013), carried out in Hong Kong, found that respondents' stereotypes emerged from their familiarity with people with the comparable accents that the respondents encountered in everyday life. In the current study, it is possible that instructors are viewed through the stereotypical images and biases that students carry with them throughout their daily lives, and these are extended into the classroom or university campus. Students may, even subconsciously, adopt attitudes towards NNES EMI instructors which could affect the way they perceive and evaluate those instructors' comprehensibility and accentedness.

The current study examines the three speech constructs of perceived comprehensibility (PC) and perceived foreign accentedness (PFA), as well as an objective measure of understanding, intelligibility (INT). These three constructs intelligibility, comprehensibility, and accentedness (ICA) have been widely used to assess the pronunciation of second language (L2) learners on the basis of NES listener judgments (see Thomson, 2018). However, they are rarely used in studies which position NNES students as listeners of diverse NNES accents. While there has been a growing body of research examining attitudes towards accents, particularly from Global Englishes perspectives (e.g., Fan, 2020; Tsang, 2020), the majority of such studies tend to focus on attitudes towards NES and NNES accents, elicited through verbal guises. In the extant literature, there is a paucity of research that explores listeners attitudes toward NNES instructors, and towards their accents, and furthermore how these attitudes relate to listeners' actual understanding of those

speakers in EMI contexts. Indeed, there are concerns in EMI contexts that the linguistic backgrounds of NNES instructors may elicit certain attitudes from students, thereby affecting the content delivery. The current study is responding to calls from researchers such as Karakas (2017) who recommends that 'research should be undertaken to investigate EMI students' preference and perceptions of NNESTs who do not share students' mother tongue' (p. 141). Hendriks et al. (2021) also points out that 'it is important to investigate the effects of non-native accent strength in English in EMI for lecturers from less high-status countries than the Netherlands. Future studies should, therefore, include lecturers with a variety of L1 backgrounds' (p. 24). Responding to these calls, in this study I examine the attitudes held by Saudi students towards expatriate instructors delivering content courses using EMI. I aim to determine if it is genuinely more difficult for students to understand the content materials delivered by NNES which they rate as hard to understand and extremely accented.

In existing research on attitudes in EMI (Hendriks et al., 2021; Inbar-Lourie and Donitsa-Schmidt, 2013, 2020; Jensen et al., 2013; Karakas, 2017; Suviniitty, 2007) there has been a focus on comparing attitudes to (mainly local) NNES instructors with attitudes to NES instructors. When students in EMI settings are rarely taught by NES and taught by a variety of NNES instructors with a variety of accents and nationalities, differences in the rating of NNES instructors are more likely to emerge, especially given that NNES students have a propensity to be more critical of accented NNES instructors (e.g., Hellekjær, 2010; Hendriks et al., 2018, 2021; Jensen et al., 2013).

Additionally, most of the EMI studies has been conducted in Europe (see Doiz et al., 2013; Jeong et al., 2021; Siegel, 2020) and Asia (see Galloway et al., 2017; Sahan et al., 2022; Wan & Gao, 2020), but few are based in the Gulf, and more specifically in SA. There is a pressing need to further investigate Saudi students' attitudes towards NNES in SA. It is important to understand the problems that are specific to the Saudi context, in order to develop solutions that are appropriate for the Saudi context.

Since the research investigates reactions to instructors from a variety of linguistic and cultural backgrounds, it will potentially uncover bias that is considered socially undesirable. Biases are often implicit and difficult to detect with standard methods, such as surveys and interviews. Therefore, this study takes a different approach by examining both implicit and explicit attitudes of Saudi students toward their diverse instructors. To uncover implicit bias, the study adopts a psychological instrument, the Implicit Association Test (IAT) (further detailed in Chapter Four). It is only recently that researchers have attempted to measure students' implicit attitudes in sociolinguistic research and in the EMI context. Some of these studies have used implicit measures other than the IAT to examine attitudes of individuals towards the attitudinal objects (see Hendriks et al., 2018, 2021; Mu, 2020). Given the dearth of empirical research on students' implicit/explicit attitudes and perceptions of EMI NNES instructors, it has become important to have in-depth research to gain a better understanding of students' perspectives in connection to the NNES EMI instructors in the Saudi context. In addition to the novelty of the research topic, the study uses a up-to-date research methods for testing attitudes, both implicit and explicit.

1.2 The aim of the study and the research questions

This study provides a detailed examination of students' implicit and explicit attitudes towards, and perceptions of, their EMI NNES instructors at a public tertiary institution in SA. The terms Arab and non-Arab used in the research question below refer to instructors coming from Arab countries comprising the Saudi locals and instructors from Egypt, and non-Arabs are those coming from South Asia, namely Indian and Pakistan. Those instructors teach Saudi students content subjects through the medium of English in the Saudi context. The study has been shaped by five overarching research questions pertaining to four fields: EMI, sociolinguistics, speech perceptions, and social psychology. The first question is about detecting explicit attitudes in which participants are aware of what is being measured, and implicit attitudes towards the same attitudinal objects. Jumping to the conclusion that students have attitudes towards EMI NNES trainers without knowing the reasons behind these attitudes

would not provide a clear picture of this kind of attitude. Therefore, the first research question also pertains to their perceptions and the underlying factors that contribute to their opinions from a qualitative perspective. Students' perceptions may have stemmed from their attitudes towards instructors (Rubin, 1992); hence, the second question examines students' perceptions in terms of the three speech constructs, ICA. The third question investigates the relationship (if any) between the ICA and students' attitudes. The fourth and fifth research questions explore the influence of demographic factors on the students' implicit/explicit attitudes and their ratings of the three speech constructs.

In addition, the study aims to use implicit and explicit measures and mixed methods research, which have been few in this particular context, to usefully add to the limited research into the use of implicit attitude in EMI. With these approaches, I can provide a comprehensive picture of students' attitudes as well as a deeper understanding of students' feelings towards and perceptions of the NNES EMI instructors.

This research has an exploratory agenda and addresses the following research questions:

RQ1: Do Saudi students hold different attitudes (implicit and explicit) towards Arab NNES and non-Arab NNES instructors who teach content courses using EMI? And (if any) why?

RQ2: How do Saudi student listeners rate EMI instructors in terms of intelligibility, perceived comprehensibility, and perceived foreign accentedness?

RQ3: Does the presence of students' attitudes affect their ratings of intelligibility, perceived comprehensibility, and perceived foreign accentedness of EMI instructors?

RQ4: What demographic factors affect Saudi students' implicit and explicit attitudes towards EMI instructors?

RQ5: What demographic factors, besides attitudes, affect Saudi students' ratings of intelligibility, perceived comprehensibility, and perceived foreign accentedness of EMI instructors?

1.3 Significance of the study

This research is significant because it puts into question the efficacy of the NNES EMI instructors and sheds light on the implicit and explicit attitudes that the students hold towards them, which in turn could have an impact on their assessment of the instructors in terms of INT, PC, and PFA—an area that has been rarely addressed in the literature of EMI. The identification of students' views and prejudices toward NNES EMI instructors could ultimately lead to a new curriculum or at the very least mitigate prejudices towards NNES instructors. Better understanding of students' attitudes will help to identify what type of language, activities, or approaches to use to confront these views. Furthermore, the study could be significant to other societies, such as the Gulf countries, and the results can be generalised to their higher education contexts that have implemented EMI programmes through recruiting similar configurations of NNES EMI instructors. The findings are relevant for all societies in which the language of teaching (English) differs from the language of communication (mother tongue) outside of the learning setting. Ultimately, this research aims to raise the awareness of different stakeholders, such as students, instructors, policy makers, and administrators, so that they can bring that awareness to EMI classes in designing materials, recruiting, planning, and training the EMI instructors, and suggest new avenues for research to further investigation.

1.4 Structure/organisation of the thesis

This research is organised in eight chapters. Following this introductory chapter, Chapter Two describes the context of the study; it offers a brief overview of the demographic and economic patterns of SA and provides an outline of the Saudi educational context. Chapter Three reviews literature from three relevant fields: EMI, language attitudes, and speech perceptions. The first part of the literature review

delves into the policy of EMI, its rationale, the benefits and challenges, and the hiring of EMI instructors, concluding with EMI in the Saudi context. The second and third parts of the chapter review the literature on attitudes and speech perceptions constructs, including intelligibility, perceived comprehensibility, and perceived foreign accentedness from theoretical, methodological, and empirical perspectives. Chapter Four discusses the research methodology, including the mixed methods approaches used and the research design. This chapter also describes the participants, the research instruments, data collection procedures, pilot studies, ethical consideration, and data analysis. Chapter Five provides the findings of the qualitative study, which focuses on understanding the students' attitudes as well as their experiences regarding their EMI instructors. Chapter Six presents the results of the quantitative study: first the results of the measures of implicit and explicit attitudes and then the evaluations of EMI NNE instructors in term of the ICA. The chapter also considers whether attitudes have an effect on perception, and the role of demographic factors in predicting attitudes and perceptions. Chapter Seven presents a summary of the main findings and discusses these results in relation to the previous literature. The final chapter summarises the research results and discusses their implications along with the methodological and contextual contributions of the thesis. The chapter concludes with providing the research's limitations and offering recommendations for further research. Figure 1.1 summarises the structure of the thesis.

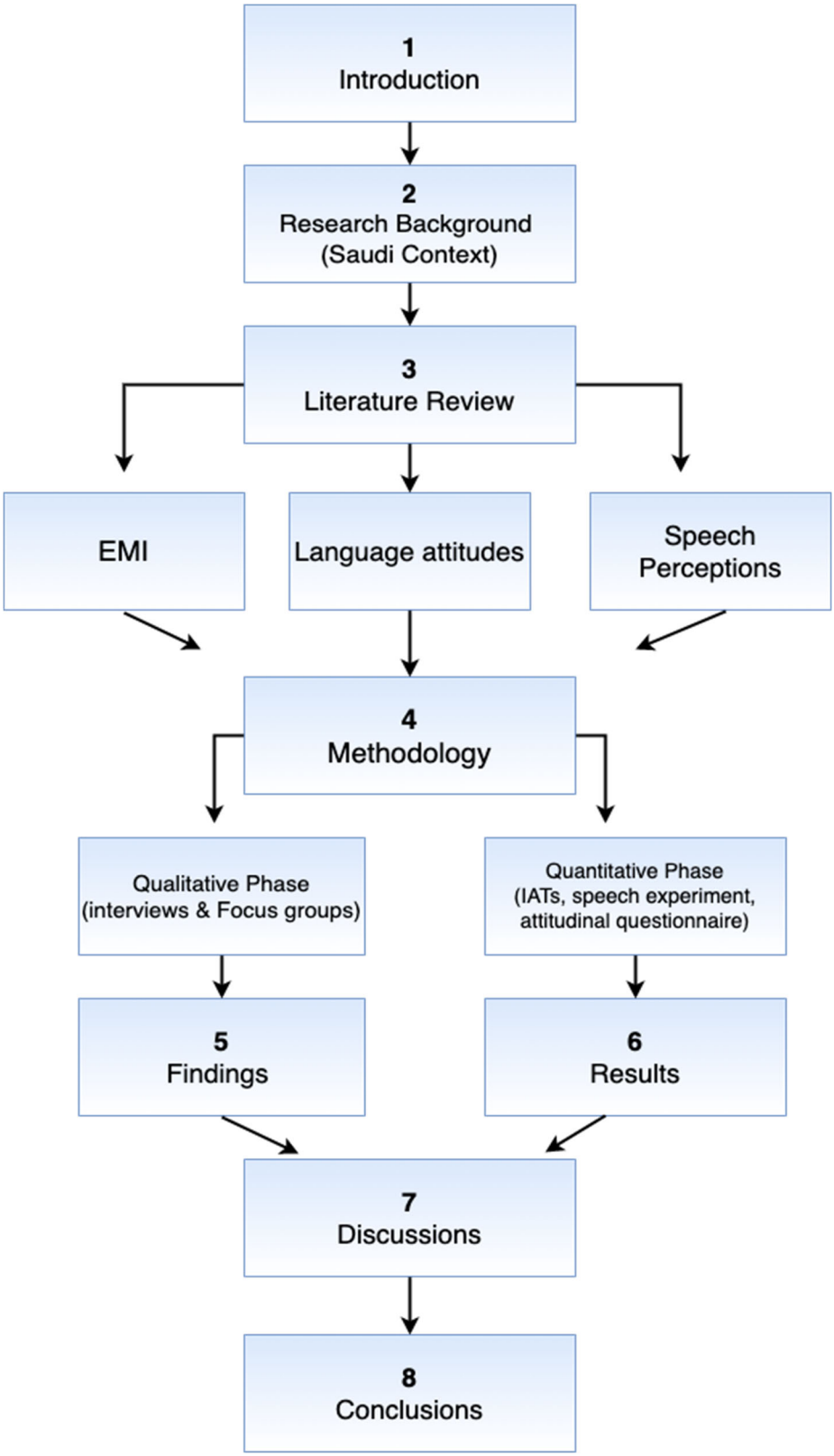

Figure 1.1 Structure of the thesis

Chapter Two: Research Context: Saudi Arabia

This chapter presents a profile of Saudi Arabia (SA) in order to understand the participants and the context of the study. It briefly presents a socioeconomic overview of the region and the story behind the influx of migrant workers to the region. I discuss the causes of the expatriate community's presence in the country and Saudi citizens' low regard for the jobs occupied by expatriates. This is followed by a discussion of the role of English, first in schools and then in higher education in SA, as well as the recruitment of local Saudi and expatriate instructors in higher education. The chapter ends with the role of media in entrenching the negative image of expatriates in the SA context.

2.1 Brief overview of Saudi Arabia as a member of the Gulf Co-Operation Countries (GCC)

2.1.1 The socioeconomic overview of the GCC

Saudi Arabia should always be considered in the context of the wider Gulf region. The Gulf Cooperation Council (GCC) is an alliance comprised of six countries including SA, Kuwait, Bahrain, Qatar, the United Arab Emirates (UAE), and Oman. The six countries of GCC have political and economic links as part of the GCC alliance. In addition, they share culture, an oil economy, as well as social kinships with tribes originating from the Arabian Peninsula (Fox et al., 2006). The discoveries of oil in 1938 and the start of the oil industry in 1948 were pivotal moments in the Gulf economy (Niblock & Malik, 2007). Since the GCC region oil reserves surpassed those of North America and Europe in 1969, these countries have been acknowledged to play a key economic role on the world stage. As a result, GCC governments began

launching large-scale urban projects, leading to rapid change in the region's social and demographic structure (Metz, 1994).

The GCC countries are high-income countries, which typically attract expatriates (UNESCWA, 2007). In a short period of time, the Gulf region has experienced an astonishing economic change (Hanieh, 2011), and the need for expatriate workers has grown. More than 21 million expatriates live in these six countries and are estimated to account for up to 51% of the overall population in the Gulf region, as shown in Figure 2.1 (Budhwar & Mellahi, 2016; Gulf Labour Markets and Migration, 2021).

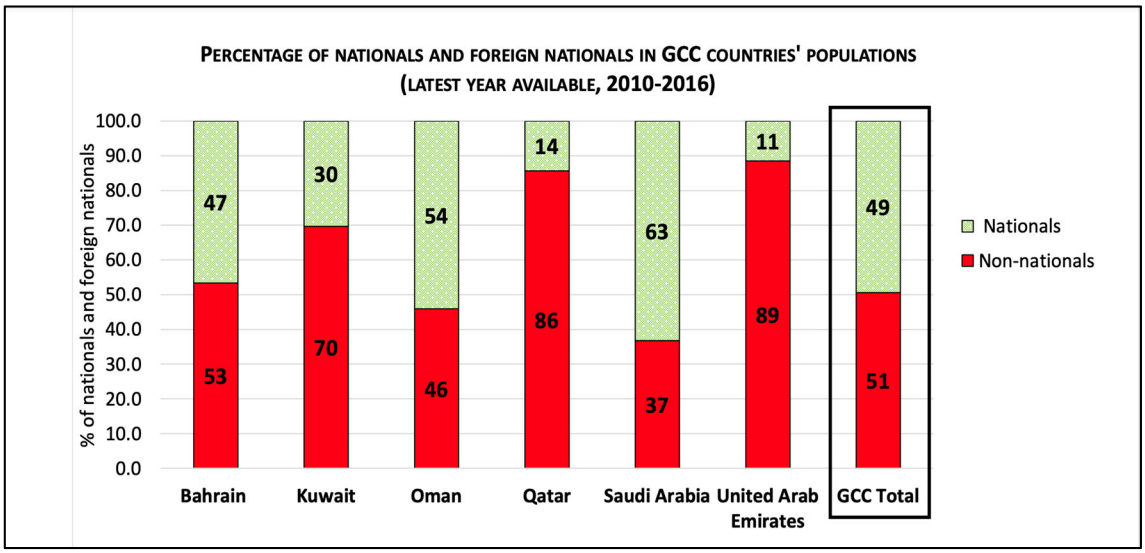

Figure 2.1 Percentage of national and foreign nationals of the population in GCC countries. (Adapted from Gulf Labour Markets and Migration (GLMM) Programme. Data are available at gulfmigration.org.).

In some GCC countries, such as UAE, Qatar, Kuwait and Bahrain, nationals are the minority numerically. This puts the Gulf region in a unique position globally when it comes to migration; it receives more expatriates than any other region in the Global South, and SA alone is ranked second worldwide in remittances (after the U.S.) (Hanieh, 2021). The rapid urbanisation facilitated by migration from around the world contributes to ethnic diversity in the Gulf region, hosting people from different cultural, linguistic, and religious backgrounds (Fox et al., 2006).

There are two key reasons for the increased need for migrant labour in GCC. The first reason is that the GCC countries have developed an economic infrastructure based on their oil wealth, which necessitates the import of both highly trained and manual workers from abroad to build such infrastructure since the locals lack these skills. The second reason is that the oil wealth has increased the average income of local Gulf nations, thereby causing an increase in the demand for durable goods, improved public services, and welfare benefits including education, health, and leisure services (Abed, 2018). This increase in the demand for services has led to ample job opportunities for migrant workers to GCC countries (Abed, 2018).

Expatriate workers' jobs can be grouped into high-skilled and low-skilled jobs. The bulk of expatriates come from low-income backgrounds and are mostly in manual work (Varshney, 2018). These low-skilled expatriates are mainly males from India, Pakistan, Bangladesh, and the Philippines (UNESCWA, 2007; Varshney, 2018). Some are from Arab countries, including Palestinians, Lebanese, Egyptians, Syrians, Sudanese, and Yemenis (Fox et al., 2006; Hanieh, 2011). Female expatriates, typically from the Philippines, India, Pakistan, and Indonesia, work as maids, nannies, or cleaners in the houses of local Arabs and wealthier expatriates. The preference for the Asian countries was due to their cheaper salaries, lack of Arabic, and lack of interest in acquiring nationality (Metz, 1994). This is in contrast to Arabs who are considered politically more risky, since they share the language, and identify themselves as equal to locals with the right to citizenship (Abed, 2018). Gulf countries were confronted with possible risks posed by Arab migrants in the Gulf;[1] as a consequence, they enacted tough immigration and labour rules aimed at limiting migrant workers' length of stay in the area and creating an atmosphere of temporary residence (Hanieh, 2011).

Higher skilled expatriates, who are smaller in number, occupy professions such as

[1] During the Gulf War (1990–1991), the Gulf governments, notably SA and Kuwait, realised that the presence of Arab expatriates in the area was a threat to their national security. Many Arab migrants in the Gulf, particularly Palestinians in Kuwait, applauded the Iraqi invasion of Kuwait (see Hanieh, 2011; Niblock, 2006)

> surgeons, dentists, pharmacists and other highly skilled health professionals; civil, mechanical, aeronautical and electronic engineers; international managers (in fund management, corporate governance and international hotels); architects; and teachers, lecturers and professors, who work in the schools, colleges and institutes. (Neal, 2010, p. 249)

As opposed to unskilled or semi-skilled workers, high-skilled expatriates enjoy a higher standard of living in the GCC than they would have in their own countries. Highly skilled migrants are partially drawn almost from the same regions as unskilled workers, with the bulk coming from Arab nations, and the Indian subcontinent, but there are also considerable numbers from Western countries. Nevertheless, because unskilled and semi-skilled workers account for most expatriates, stereotypes and preconceptions against them are more likely to be common.

The next section will focus on SA in particular as the context of the current research.

2.1.2 Overview of Saudi Arabia

Saudi Arabia (see Figure 2.2) has long been the most powerful economic player in the Gulf region. It is the second-largest country in the Middle East and is at a crossroads between three continents—Asia, Africa, and Europe. It occupies the southwest region of the Middle East and lies between the Red Sea and the Arabian Gulf. Saudi Arabia occupies over 2,250 million km² and its population is around 35 million. This includes 12.5 million non-Saudi expatriates, comprising 37% of the population, as previously shown in Figure 2.1. These are usually concentrated in large cities, such as Riyadh, Jeddah, Makkah, Madinah, and Dammam (General Authority for Statistics for Kingdom of Saudi Arabia, 2019).

Figure 2.2 Map of Saudi Arabia showing its borders and major cities (adapted from Alrashidi & Phan, 2015)

Before the discovery of oil

Before the oil boom, Saudi Arabia was a poor country, lacking an infrastructure and industrial development (Sabri, 2001; Simmons, 2005). Most of the population was nomadic (Bedouin), descended from indigenous tribes and engaged in herding and agriculture (Almtairi, 1985) to survive and support their families. People in this region lived in small groups, travelling long distances, herding their sheep, goats, and camels through the desert (Sabri, 2001; Simmons, 2005). Women performed agricultural work, produced handcrafts, tended livestock (Fallatah, 2012), raised children, and took care of general domestic work.[2] Saudi Arabia was self-sufficient during this time, and its revenue came from the fees imposed to Muslims who came to Makah for pilgrimage each year (Simmons, 2005). The country also relied on the profits from the export of sheep, horses, camels, skins, pearls, and dates, as well as the profits of nomadic rural activities like camel raising, wheat cultivation, and grazing (Sabri, 2001).

[2]After the oil, when the Saudi men's incomes improved and women began to work outside the home, Saudi women were able to live a more comfortable lifestyle and started to employ expatriates as housemaids and nannies to help with children and household duties. As a result, the reliance on (foreign) domestic employees as carers and housekeepers has grown (Sater, 2014).

After the discovery of oil

After the start of oil production in 1938, Saudi Arabia's economy grew tremendously. The Bedouins adapted to a more settled lifestyle, and the government became the primary source of subsidies and social services to the people (Al-Naqeeb, 1990). Moreover, the government adopted several national development plans with an emphasis on improving the Bedouin lifestyle and other aspects of the country's infrastructure, including education, communications, and transportation (Al-Harthi, 2000). Through discovering oil, the country transformed from a traditional tribal country into a modern industrialised one. In light of the substantial revenue generated by oil, the success of the country's planned economic development depended on its access to professional, skilled, technical, and even manual labour. As a result, it became necessary to import thousands of expatriates to meet the excessive demands for labour to work in developing SA's agricultural, defence, communications, health, electrical, and industrial infrastructure (Almtairi, 1985; Harper & Subanthore, 2007). Thus, these transformations also changed the demographics of the country, and the influx of both Arab and non-Arab expatriates increased. The general census in SA estimates that the number of expatriates surpasses 9 million, particularly at private low-skilled jobs. Figure 2.3 shows the expatriate population in the Saudi context from Arabs and non-Arab countries.

Nationality	Population (Approximate)
India	2,550,000
Syria	2,500,000
Pakistan	2,450,000
Philippines	1,600,000
Bangladesh	1,300,000
Yemen	1,000,000
Egypt	900,000
Indonesia	850,000
Myanmar	500,000
Sri Lanka	350,000
Nepal	315,000
Lebanon	300,000
Jordan	260,000
Sudan	250,000
Turkey	200,000
Somalia	65,000

Figure 2.3 The population of expatriates by nationality in Saudi Arabia 2021 (adapted from the global media insight)

In SA, the majority of these expatriate groups work in manual jobs that Saudis are unwilling to engage in, mostly in private facilities and venues, for instance, housework (maids, nannies, drivers), cleaning, construction work, and maintenance jobs (Neal, 2010; Varshney, 2018). These jobs necessitate a large number of expatriates to continue coming to the country.

The oil resources have permitted extensive and profitable public sector positions, an appealing employment option for Saudi natives. This trend has been observed in other Gulf countries. There is, however, an over-representation of locals in the public sector and an over-representation of expatriates in the private sector, which has been noted as a major problem in the labour structure and considered unsustainable in the long term. As a result, like other Gulf countries, SA has developed a localisation strategy, namely ‘Saudisation,’ that encourages citizens to work in the private sector at all levels (Faqeeh, 2009). Saudisation aims to reserve a proportion of employment for

native Saudis in an attempt to manage the unemployment problem of locals and, at the same time, mitigate over-reliance on expatriates. The aim is a healthy and productive local workforce, which contributes to the Kingdom's improvement. Even though huge efforts have been put into the Saudisation initiative, its impact on lowering unemployment or increasing skills is considered to be low. Al-Asfour and Khan (2014) demonstrate that Saudisation has had a negative influence on the economy by increasing labour costs in some cases and decreasing employees' productivity. Labour costs increased as a result of replacing low-wage expatriate workers with Saudi nationals, who refused to accept the same wage. Some Saudi nationals lack the necessary training to replace foreign workers, resulting in lower productivity than their foreign colleagues (Al-Asfour & Khan, 2014). In fact, there is an inadequate match between school graduates and market needs. The economy still suffers from a gap between the graduates' output and the labour markets. The factors are related to inability and insufficient coordination between business and education, the abundance of some specialisations and lack of others, and lack of experience (Maroun et al., 2008). For example, the majority of graduates are from humanities and arts disciplines, while the labour markets, particularly the private sector, need vocational, technical, and scientific graduates (Madhi & Barrientos, 2003). Nevertheless, SA remains committed to this policy and continues to lower the number of expatriates hired for certain jobs in an effort to increase employment prospects for citizens.

2.1.3 Social classes in Saudi Arabia

Along with the economic prosperity that has occurred in the region since oil was discovered, the region has also seen significant social transformation. As a result of their heavy reliance on expatriates, the population of SA has grown. Although SA, has a much larger local population than other Gulf countries (see Figure 2.1), it employs about 66% of the region's expatriates (Willoughby, 2006). Because of the enormous influx of expatriates, the region has become more globalised, attracting people from varying cultural, linguistic, and religious backgrounds. Nevertheless, a social divide is clearly visible between various groups, with the main division

occurring between the expatriate community and Saudi citizens (Abed, 2018). Immigration policies play a role in this division. These policies place native citizens in a higher social position than most other migrant groups, resulting in a social distance and affecting the interactions of Saudis with the migrant community. Migrant communities in the Gulf regions confront rigorous immigration regulations. For example, whereas migrants in Western countries have opportunities to integrate into their host society, the situation is somewhat different when it comes to GCC states. In SA, there are strict regulations for acquiring visas and residence permits, and strong deportation procedures (Dito, 2014). For instance, most migrant workers in SA, especially unskilled and semi-skilled, are employed on a short-term contract. It is mandatory for them to leave the country immediately upon the expiration of their contract or upon the employer's decision to cancel the contract. Furthermore, expatriates are housed in different areas, further separating the locals and expatriates (Hanieh, 2021). These restrictions send a strong signal to expatriates that they can only expect a temporary stay in the area and have little prospect of staying in the region permanently (Rahman, 2011). Therefore, the social barriers and the segmentation between locals and expatriates appear to start from the moment they arrive in the country.

The majority of studies of the social stratification of citizens and expatriates have been conducted in the UAE (see Davidson, 2005; Hopkyns, 2017, 2020; Piller, 2018), though they are relevant to the SA context as well, given the two countries' demographic, cultural, and linguistic similarities. Social stratification in SA is similar to that seen in the UAE, which is based on 'nationality, ethnicity, and employment status' (Davidson, 2005, p. 90). Saudis are viewed as an elite within their society, while expatriates are considered 'other' and often called 'foreigners.' The distinction is visible; for example, in terms of clothing, Saudis dress differently from expatriates, with women wearing traditional *Abaya* (long coloured cloak usually black) and *Niqab* (a veil covers the face except eyes) or just *Tarha* (a coloured headscarf usually black), and men wearing *Thoub* (long white sleeve) and *Ghutra* (a white/red headscarf). This distinction extends also to a variety of readily apparent features, including the

language or dialect (if expatriates are Arabic speakers), income, prestige, and connections (Hopkyns, 2020).[3] Although both the citizens and expatriates share similar public places, such as restaurants, coffees, malls, the limited interaction which occur between them 'tend to be transactional and service-based' (Hopkyns, 2017, p. 39). There appears to be a hierarchy within Saudi culture that gives Saudis a sense of privilege and allows them to wield most social power based solely on their nationality.

2.1.4 Attitudes towards jobs

In the GCC, including SA, the cultural values and social attitudes of locals act as barriers to particular types of jobs, especially private sector jobs. The oil boom introduced a surge of new concepts and ideas, resulting in the current negative attitudes regarding some work practices in SA (Mellahi & Al-Hinai, 2000). Locals are likely reluctant to engage in jobs that they view as being beneath them (Abed, 2018) and prefer to work in the public sector. The main contributory factors for this preference are job security, promotion based on length of service rather than on merit, higher salaries and greater social status, shorter working hours with more benefits, and less challenging work (Al-Waqfi & Forstenlechner, 2012; Mellahi, 2007). On the other hand, they avoid the private sector as the work is more challenging and lower-paid (Varshney, 2018). The majority of jobs in the private sector are manual jobs, and the Saudi residents hold a negative perception of these jobs. They have become associated with low-paid expatriates, and, therefore, only a poor minority of Saudi nationals would accept such jobs (Mellahi & Al-Hinai, 2000). Thus, the private sector, instead, relies on expatriates who are more skilful and accept the low salary and long working hours. There is now an entrenched cultural norm that categorises jobs such as manual or service jobs (low-skilled jobs), usually private sector, as inappropriate for Saudi citizens (Al-Waqfi & Forstenlechner, 2010). The social status of an individual in SA, and in the GCC in general, is affected by the type of job, and sector of employment (Diop et al., 2012; Mellahi, 2007; Mellahi & Al-Hinai, 2000). To gain

[3] Due to the scarcity of references to the disparity in Saudi society between citizens and expatriates, I cite Hopkyns (2017, 2020), who demonstrated a similar distinction in Emirati's society.

a better understanding of national attitudes regarding expatriates, it is necessary to be aware that the GCC countries have specific traditional traits that influence perceptions. For example, in the Gulf region, low-skilled jobs are not only associated with low social status (Diop et al., 2012), they actually carry social stigma. In the past years, the culture of the society nourished its children with ideas of heroism, courage, and generosity and glorified public jobs with well-paid salaries, all of which were considered superior to other professional work in an institution specialised in manual jobs. Greater respect was accorded from society when the males in the family work as, for example, a soldier guarding his country. The image of the worker stained with oil, on the other hand, is no different from the image of the poor worker from outside of SA. These views within Saudi society extend to social associations with other families and marriage (Al-Harthi, 2000). For instance, families would accept a groom who proposes to their daughters according to his job status (in addition to other conditions) since it would ensure the financial well-being of their daughters. It is critical to note, however, that while locals may despise specific jobs, they are not reluctant to start businesses and securing visas for foreign workers to come work for them on a monthly income (Al-Harthi, 2000). In this way, the negative views of manual jobs are directed at expatriates rather than the natives and have led to the division between both parties. Indeed, these traditional values and opinions are deeply entrenched and difficult to overcome and they are occasionally reinforced by daily media through T.V. shows and stereotype images associated with each nationality (more on media in Section 2.1.7).

Together, these factors could have played a role in persistent attitudes towards expatriates, including those working in higher education. Indeed, at the universities, where expatriate instructors work and contact with a greater number of Saudis, whether they are students or professionals, the interaction is largely constrained within the campus's boundaries. The same social division that exists in the wider society can be viewed in the educational environment, where instructors are recruited from the same population of expatriates. If students encounter those nationalities in a variety of jobs, mostly low-paid jobs, such exposure may influence students' perceptions and

attitudes to their instructors, either explicitly or implicitly. Nevertheless, attitudes towards expatriates in the educational context has not been examined previously. Scholars have given little attention to the perceptions and attitudes of citizens in the Middle East in general, and SA in particular, towards foreign workers and very few in the educational context. Yet, the way students perceive their multiple instructors is important, as communications between students and their instructors at a university campus are unavoidable. Therefore, investigating students' attitudes towards their multiple NNE EMI instructors and the factors that drive these attitudes deserves more attention in the Saudi context.

In these sections above, attempts have been made to show the bigger picture of the SA context and how important it is to consider the unique characteristics of this context to draw an appropriate conclusion about the attitudes and perceptions among students towards their expatriate instructors. The next section discusses the education sector, which is the focus of the current study.

2.1.5 English Education in the Kingdom of Saudi Arabia

The discovery of oil and its comprehensive local development activities led to the spread of English in the country. The recruitment and investment of several foreign companies in the Kingdom, and the need for a qualified and skilled workforce reinforced the spread of English (Almegren, 2018). For example, a large number of companies, particularly from the U.S., expanded their involvement and thousands of Americans were hired (Alessa, 2010; Almegren, 2018; Nurunnabi, 2017) to work in oil companies such as the Arabian American Oil Company (ARAMCO). The company was owned and operated by Americans from 1933 until 1988. Currently, SA owns the company; however, a lot of Americans are still working there. Because of the company's significant position in the country, its employees needed to communicate with the locals, which led to the promotion of teaching English to the locals (Mahboob & Elyas, 2014). To contribute to the country's development and to communicate effectively with those workers, it was necessary to address locals' requirements and obstacles in learning the English language. As a result, the

government passed legislation in 1958 mandating that English be taught in all SA government schools from the seventh to twelfth grade (Al-Seghayer, 2012; Mahboob & Elyas, 2014).

In schools

English is the second language used in the country and taught in schools, but is rarely used in everyday life, while Arabic is the medium of instruction in schools, that is, primary, intermediate, and high schools. Saudi public schools offer four 45-minute sessions per week of English as a Foreign Language (EFL) (Almutairi, 2007). In 2003, the Ministry of Education (MOE) made English compulsory in the final year of primary school, grade 6 (Al-Jarf, 2008). In 2011, MOE mandated teaching English from grade 4, and in 2020 English became a mandatory subject from grade 1 (MOE, 2021). In Saudi Arabian media, the expansion of English in public schools has resulted in a contentious debate between conservative and progressive groups. The debate was between those opposed to exposing primary school students to a foreign language and culture against those who believed that learning English open doors and expands knowledge and opportunities (Al-Harbi, 2002). While the discussion continues, it appears as though the argument that English is a crucial part of a student's education for global competitiveness and academic advancement has taken precedence (Al-Hazmi, 2007; Al-Seghayer, 2012).

Even though English is now introduced at an early stage, Saudi students' English proficiency is still considered to be very low (Alfehaid, 2018; Alhamami & Almelhi, 2021b; AlZumor; Louber & Troudi, 2019; Shamim et al., 2016). The EFL research has concentrated on the low level of English competence of Saudi learners, attributing this to ineffective teaching techniques and students' low motivation to learn the language (Al-Hazmi, 2003, 2007; Al-Seghayer, 2005; Syed, 2003). According to these studies, students believe that English is not directly relevant to their requirements and are content with only passing the grade to continue into the following year. Whereas policymakers connect modernisation and success with English, Syed (2003) claims that 'local students see no concrete links between English

language ability and communicative requirements' (p. 338). Parents' attitudes toward their children's learning English have also been described as indifferent (Al-Seghayer, 2014). This lack of interest has been viewed as a hindrance to learning in Saudi schools (Khan, 2011).

Several studies have blamed structural weaknesses in the primary and high school sectors for the inadequate preparation of students to meet the country's social and economic needs (Allmnakrah & Evers, 2020; Mosaad, 2016). It has further been claimed that students have not received an education that prepares them for the transition to learn subjects in English in tertiary education (Alrabai, 2018; Khoshaim, 2017). Saudi Arabia has undertaken several initiatives in recent years to address these deficiencies, including a preparatory year—a one-year of teaching intensive English along with teaching other subjects using EMI—used in most universities, including 25 government universities and 27 private educational institutions (McMullen, 2014) as well as introducing an English curriculum from the primary year. The impact of these initiatives on tertiary education, however, will take time to produce an outcome.

The majority of English teachers in primary to high public education are Saudis hired by the Ministry of Civil Service. This can be seen as a benefit because they can communicate with students without culture or language barriers (Khan, 2011). This advantage, however, can be a double-edged sword because Saudi English teachers tend to use Arabic more extensively than English, and students prefer using Arabic to English (Al-Seghayer, 2012). To be qualified to teach, there is no requirement for previous experience. The minimum standard is a bachelor's degree in English (Alfahadi, 2017). Predominantly, teachers are graduates from local universities and colleges, where they have completed a 4-year course in teaching English as a foreign language to bachelor's degree standard.

In private schools, on the other hand, English plays a very different role as a required component of the curriculum at all levels, and some private schools have the option of teaching some subjects in English (Alhawsawi, 2013). They are required to follow the Saudi curriculum but have the flexibility to include additional subjects and extra-

curricular activities (Alhawsawi, 2013). Private schools' instructors tend to use English as a communication tool and encourage students to interact in English inside the classroom. Thus, graduates from these schools tend to be better in English and have a higher level of proficiency than graduates from public schools (Almutairi, 2007). The private schools can range from Saudi private schools to nationality-based schools, such as Indian-school, or international schools. For nationality-based and international schools, English is used as the medium of instruction. A growing number of international schools have opened since 2005 (Al-Hazmi, 2007). They follow a particular educational curriculum, for instance, the British or American curriculum. The situation in private schools is more flexible, and most English teachers are NNES from Arab countries, such as Egypt, Sudan, Syria, and Palestine, as well as a considerable number of NES (Ahmad et al., 2016; Al-Hazmi, 2007). Thus, students who graduated from private schools appear to have had more exposure to teachers from various backgrounds than students who attended public schools and were only taught by Saudi teachers.

At the universities

When it comes to tertiary education, English has become an integral part of both public and private universities, with an increasing number of subjects taught through EMI (Alhawsawi, 2013). Most universities in SA officially teach through English in all undergraduate programmes with the exception of Arabic and Islamic studies (Smith & Abouammoh, 2013). English language/EFL courses are also a compulsory part of the curriculum for all courses. For example, those studying for a bachelor's degree in Arabic or in computer science are required to undertake an English language module, normally English for academic purposes (EAP) or English for specific purposes (ESP), as part of the course (Almahmoud, 2012). The aim is to extend students' language skills so that they can study other relevant literature, not only that which is written in Arabic. The development of EMI has also spurred a debate over whether the promotion of English in academic programmes is necessary to participate in the global economy or whether it negatively affects the quality of education since it separates students from their first language (Al-Shehri, 2010). Nevertheless, in

recent years, the Saudi government has implemented educational initiatives that have elevated the status of English. In 2011, the King Abdullah Scholarship Programme, which was established in 2005, supported the education of over 100,000 Saudis who attended universities overseas, with one fifth being female (Smith & Abouammoh, 2013). In 2009, King Abdullah University of Science and Technology was established as a core research and development facility for the Saudi science and technology industry. It is a coeducational international university in SA that provides higher EMI education, primarily for international students (Donn & Al Manthri, 2010). In 2016, the Vision 2030, presented by Prince Mohammad bin Salman, also aimed to foster the status of English via cooperation and association between SA and other countries around the world in different fields, including education (Nurunnabi, 2017). To accomplish this goal, the Saudi government recognised the importance of an effective education system and began improving the country's public schools and higher education institutions. Efforts are also being made to raise Saudi universities to 'world-class' standards in teaching and research so that Saudi graduates can compete internationally in the workforce (Smith & Abouammoh, 2013). As a result, discussions of growth and increased participation in global tertiary education have gained momentum, and EMI has been considered an integral part of this process.

EMI is one of the most significant manifestations of globalisation (Dearden, 2015). The policymakers in SA have a strong belief that using EMI is a primary tool to improve the quality of education across the country (Barnawi & Al-Hawsawi, 2017). The government is internationalising its higher education system through a top-down process. Nevertheless, adopting this policy has raised several questions related to national cultural identity and the domain loss of the local language. More details about the EMI policy and its implementations are discussed in the next chapter.

2.1.6 Instructors in higher education in Saudi Arabia

While SA has successfully developed its human resources of local instructors in all major fields for pre-tertiary education, higher institutions remain dependant on expatriate instructors in various disciplines. Internationalisation and the

implementation of EMI has required SA higher education to recruit globally for instructors for content-based courses (Louber & Troudi, 2019; Onsman, 2012). However, despite a substantial increase in the number of Saudi workers in the country, the demand for expatriate instructors has increased as well. In part, this situation may be justified since the number of Saudi students at the university level has grown considerably and there is a dearth of instructors to meet the demands of this growing student body. In addition, most of the Saudi instructors employed by universities are pursuing their higher degrees either abroad or in local universities. In light of this, the feasible solution to this issue is to recruit expatriates, who in turn, have the heavy burden of teaching. According to MOE's university faculty staff statistics of the academic year (2017-2018),[4] non- Saudi instructors outnumber Saudi instructors. At the university under investigation here, a very similar scenario exists, given that it is one of the country's newest colleges and various fields rely on expatriate instructors due to a shortage of Saudi instructors.

The faculty are recruited from diverse linguistic, cultural, and racial backgrounds. There is a demand for NES instructors; however, NES instructors are mainly recruited by the early established and prestigious universities in the big cities (Onsman, 2012). The Saudi universities are not attractive to NES instructors because of the low status and prestige, particularly the new universities (Onsman, 2012). Moreover, SA appears to be unappealing to NES instructors, due to perceptions of SA as a restricted country with strict religious and cultural regulations and traditions (Alenazi, 2017). As another obstacle, higher salaries for NES can reduce NES recruitment. NES are paid much more than NNES, and sometimes three times more than Saudis (Alenazi, 2017). This could create a burden for Saudi universities when seeking to recruit instructors, and, therefore, they often resort to recruiting NNES instructors.

The vast majority of NNES recruited instructors are Arab expatriates, primarily Egyptians, who make up the largest number of non-Saudi academic staff, for

[4] https://departments.moe.gov.sa/PlanningDevelopment/RelatedDepartments/Educationstatisticscenter/EducationDetailedReports/Pages/default.aspx

geographical, linguistic, and cultural reasons, as well as the poor conditions for academics at universities in Egypt (Louber & Troudi, 2019; Onsman, 2012). South Asians make up the second-largest group of non-Saudi academics (Louber & Troudi, 2019), owing to their proficiency in English, and low paid to those instructors in comparison to NES instructors. In addition to the low salary, recruiting of instructors from South Asia is related to religious considerations. Though the hiring policy of the Council of Higher Education and Universities in SA (MOE, 2007) does not explicitly mention Islam as a requirement of non-Saudi instructors, recruiters do appear to favour Arabs and South Asians for that reason. However, there is a belief that non-Saudi academics lack fluency in English and cultural awareness (Khan, 2009), and thus, SA is stuck in a bind: 'On the one hand, it prefers to engage Muslim academics, for pragmatic as much as pedagogic reasons but on the other, it needs to be mindful of the fact that the medium of instruction is English' (Onsman, 2012, p. 484). Nevertheless, the process of recruiting content course faculty in SA's higher education institutions has received very little attention in published literature. It is critical to promote research in this field because adequate staffing may boost a university's reputation while also improving students' educational and knowledge levels.

2.1.7 Media, stereotypes, and expatriates in Saudi Arabia

A rich body of research has shown that media is the source of articulating dominant social values, ideologies, and developments, but it is also responsible for misrepresenting concepts that often lead to stereotypical portraits (Saha, 2012; Van Dijk, 2015). When it comes to media organisations, they are not operating in a vacuum; rather, they tend to reflect prevailing conditions and ideologies of that society. Although media is not the focus of this study, it is necessary to provide a brief background on how media in the current context portrays stereotyped images of expatriates, which may contribute to a more negative attitude toward minorities in the larger society. As such, examples have been provided of Indian and Egyptian expatriates to demonstrate these ethnicities' prevailing and stereotypical image in the SA context. The discussion below illustrates some of the most salient stereotyped portrayals of those expatriates in the Saudi media.

South Asian expatriates

South Asians are frequently portrayed in Saudi media with the most stereotypical characteristics of the source variety, including their English accent, 'broken Arabic,'[5] style, and clothing. For example, the phonological features of South Asians are often associated with undesirable attributes such as lack of sophistication and stupidity in the SA context. *Tash Ma Tash* is one of the most popular comedy shows on Saudi T.V. The show has hundreds of episodes, and each episode has a particular story. Some of these episodes have portrayed various expatriate characters, including South Asians, Filipinos, and Arabic characters, such as Sudanese, Egyptian, and Saudis from different Saudi tribes, all of whom were shown in stereotypical comic images. The South Asian episodes, in particular, has depicted the stereotypical picture about the Indian people and displayed the Indian character as a stupid driver dressed in typical Indian clothes, as shown in Figure 2.4. During the show, the actor uses similar gestures of Indian expatriates by mimicking how they shake their heads. He also speaks with a mixture of English words and broken Arabic by repeating a term commonly used by Indian expatriates to indicate that they do not understand what is being said. For instance, every time he is asked to do something by his employer, he repeats the same phrase in broken Arabic, 'ɛɪs fi:,' which means 'what is happening?' in English. Although the aims of the episodes are to address the issues of Saudi society with a satirical framework, in this scenario, stereotypical linguistic and physical features of South Asians have been asserted and linked to negative connotations and indexes associated with uncivilised, uneducated, and inferior communities. The following image (Figure 2.4) is taken from this T.V. show.

[5] Broken Arabic is a simple form of Arabic language that could be near to what is known as pidgin Arabic (more about pidgin in Holm, 2004). It is commonly referred to locally as 'broken Arabic' (Avram, 2014)

Figure 2.4 The Indian character in one of the episodes of the popular TV comedy show *Tash Ma Tash*

Egyptian expatriates

Egyptian people likewise are presented in the media as being funny and knowledgeable, along with preconceived notions about Egyptian English and Arabic accents. For instance, Egypt is one of the few countries that have dominated the field of cinema and music in the Arab world, so that Egyptian people and their accents are easily identifiable. With reference to Egyptian people in the Saudi context, they are stereotyped based on their accents in both English and Arabic, and Saudi people used to mimic them in how they changed sounds like /ð/, /θ/, and /ẓ/ into /s/ in a sarcastic way. In Hachimi's (2015) attitudinal study, where map-drawing and labelling task were used, she found that Egyptian Arabic dialects stands out as one of the prestigious varieties. In the study, Hachimi investigated the attitudes of Arabs (namely Moroccan as participants) towards dialects of Arabic (Syrian, Egyptian, Moroccan, Gulf, Iraqi).

The participants found the Egyptian accent is the most prestigious Arabic dialect. However, the case appears to be different in Albirini's (2016) study, where participants were recruited from SA. Albirini used attitudinal questionnaire and interviews with participants from SA, Egypt, Jordan, and Morocco. The researcher found that Saudi participants preferred their own accent because it was viewed to be close to Standard Arabic and was associated with 'old Arab tribes in the Arabian Peninsula' (p. 97). Furthermore, Saudi participants found the Saudi dialect intelligible, citing their clear production of sounds such as 'interdental /ð/, /θ/, and /ẓ/' (Albirini, 2016, p. 97). From Albirini's research, Saudi participants preferred the Arabic dialects that are close to Standard Arabic: however, this is not the case with the Egyptian Arabic accent, which deviates from Standard Arabic by changing sounds, as mentioned previously, like /ð/, /θ/, and /ẓ/ into /s/. The characteristics of Egyptian Arabic pronunciations influenced their English accents, and Saudi easily recognised them.

Moreover, Egyptian people became particularly well-known in the film industry and became the main dominating country not only in the Arab world but also in the middle Eastern region. They became creative in comedy films and plays, leading them to be stereotyped with many comedic images. For example, the name of the actor 'Adel Imam' is recognised throughout the Arab world as a comedian ideal. Alsadi and Howard (2021) note that

> Among Arab countries, Egypt has always been considered the most humorous, a well-known stereotype that most Arabs admit. In theatre, for example, Egyptians have always been known for their comedy and comics, in addition to the comical comments and situations they are used to in their daily life and even during crises. (p. 36)

As a result, when the Saudis represented the comedians, they found that the Egyptian character was the best at achieving this. For example, On Saudi social media, namely Snapchat, an influencer has used these stereotypes (comedy, Egyptian Arabic, and English accent) to create a funny character, a well-known fictional Egyptian character

called ‘Miss Salwan.’ The creator has used a Snapchat filter to alter her personality and speech to take on the persona of an Egyptian lady. For this character, she mimics the style and accents of the Egyptians in Arabic and English to criticise the negatives of social media society in the Arab worlds and offers advice in a meaningful comedy template. The fictional character could be of any nationality; however, the Egyptian appears to have been chosen because of the stereotypical image associated with the Egyptians and their accent in the Saudi context as being the funniest and the most knowledgeable. In relation to the current research, these stereotypes resonate in students’ responses in the qualitative and open-ended questionnaires when describing Egyptian instructors. Students may interpret the instructor’s sense of humour, for example, in both positive and negative ways. On the one hand, they may perceive the classroom as a pleasant setting that motivates them to learn from those instructors. On the other hand, they may disregard those instructors, resulting in negative attitudes toward those instructors among students.

Additionally, Egyptians have also been also stereotyped as being intelligent and knowledgeable in the SA context, and an example of such a stereotype for Egyptians is the depiction of an Egyptian cartoon character known as ‘Mustafa Al-Dafour.’ This character has become well-known by everyone in SA and the Gulf region. The name Mustafa is used because it is a typical Egyptian name, while Al-Dafour is an Arabic word that is used metaphorically to stand for ‘nerd students’ in English. This character is famous for his piety and eagerness to attend school, participate in all educational activities, carry out his school duties accurately, and even sacrifice friendships, putting him front and centre in the Saudis’ conversations. When dust storms cause the school to be suspended for days, this is very unacceptable to Mustafa, who is keen to take advantage of every moment of his school day. Some jokes say that Mustafa left SA for Egypt because school was suspended several times that year. Mustafa has begun to invade the conversations of people on social media like Twitter and Facebook and even in the real world, where people bring Mustafa into everyday situations (Mzmz, 2017). Apparently, the Saudi society have created the character of Mustafa Al-Dafour as a response to how they perceive Egyptian history in education.

Egypt was identified as the country of knowledge by all Arab countries and that may serve as the foundation for this caricature. These are some of the caricatures of Mustafa Al-Dafour posted on Twitter as shown in Figures 2.5 and 2.6.

Figure 2.5 Mustafa is praying that school will not be suspended that day in Riyadh (adapted from Mzmz, 2017)

Figure 2.6 Mustafa is about to commit suicide because the school day has been suspended (adapted from Mzmz, 2017)

Taken together, over time, repeated exposure to this type of materials with a content of stereotypical images might result in the formation of stereotypic memory traces, which can have effects on how people think, feel, and even behave (Mastro, 2009). As a result, they contribute to the development of negative perception about minorities in societies (e.g., Mastro et al., 2007) as well as encouraging the adoption of these stereotypes in subsequent evaluations (Gilliam & Iyengar, 2000). These images not only reinforce stereotypical portrayals of those nationalities but also can establish hierarchies in the societies that pervade all facets of life. These portrayals are produced through both language and embodied practices, including clothing, gestures, facial expressions, and other semiotic resources stereotypically associated with South Asian and Egyptian characters and cultures. The practice in the media is noticeably and deliberately reliant on the prominent linguistic and non-linguistic features of those expatriates, and, hence, it has become easier to recognise the connection between performance and its source. Moreover, the Saudi media has displayed a remarkable consistency in their mockery of expatriates, where many are shown in comic style. Nevertheless, research on expatriates in the media in the Saudi context is scarce and deserves more attention since long exposure to media stereotype could influence attitudes towards minorities. These attitudes may extend to other facets of lives, including education and academic expatriates working in that field. When individuals from these nationalities are recruited to work as academics in higher education institutions, students' attitudes may retain a negative attitude toward expatriate academics, which could influence students' evaluations of instructors in terms of intelligibility, perceived comprehensibility, and foreign accentedness.

2.2 Chapter summary

This chapter has provided a detailed overview of the study's targeted context. It has started with an introduction to the GCC, including SA, along with a focus on its socio-economy and social class in the Gulf region. The chapter has discussed the influx of expatriates in the GCC and the story behind that. It has also shown how English is taught in SA in schools and universities. It has also provided a discussion around

instructors and their recruitments in the SA higher education. Finally, the chapter ended by providing examples of how expatriates have been depicted and stereotyped in the SA media.

Chapter Three: Literature Review

The previous chapter presented a profile of Saudi Arabia (SA) and an overview of the context underpinning the influx of migrant labourers to the region. This chapter reviews EMI in global contexts at the tertiary level, language attitudes, and speech perceptions (ICA). The first part of this chapter is devoted to EMI, the rationale for adopting an EMI policy, and the benefits and challenges of adopting EMI. This is followed by a discussion of hiring content instructors and the challenges of teaching and learning with EMI instructors, which all are necessary to situate EMI in this study. I then provide a broad overview of the EMI in the SA context, considering a variety of challenges particular to EMI in higher education in the Saudi context.

Since attitudes and perceptions of instructors are of importance in the EMI context, in this chapter I also review language attitudes and speech perception constructs from both conceptual and methodological perspectives. I consider how language attitudes and speech perceptions fit within that EMI context. The second part of this chapter is devoted to language attitudes and the measurements employed in this field. Following this discussion, I then turn to research methods used to measure attitudes, from traditional methods in sociolinguistics, to new methods influenced by social psychology, for example, the IAT. The third part of the chapter is devoted to the three speech constructs: intelligibility (INT), perceived comprehensibility (PC), and perceived foreign accentedness (PFA) along with their definitions, measurements, and the speaker and listener related factors. The fourth part of the chapter discusses the native speakerism ideology and relevant research on attitudes towards EMI instructors. It begins with a discussion of the ideology and the dichotomy between NS instructors and NNS instructors in the ELT and then situates the research in the existing literature around EMI and offers a critical review of past research into students' attitudes towards EMI instructors in academia.

3.1 English medium of instruction (EMI)

What is EMI?

Since the wider context of this research is EMI, it is necessary to understand the background of this global trend and the rationale behind adopting this policy globally and locally. EMI is a language education policy in higher education, defined by Dearden (2015) as 'the use of the English language to teach academic subjects (other than English) in countries or jurisdictions where the first language (L1) of the majority of the population is not English' (p. 4). According to this definition, English is used to teach content courses, and English language use is separate from subject matter; ESP and EFL instruction are not involved, and learning the English language is not an objective of the curriculum nor outlined in the outcomes (Gundermann, 2014). EMI thus differs from other educational settings, such as content and language integrated learning (CLIL) or content-based instruction (CBI), which involve explicit language teaching and aims to improve students' English proficiency.

The role of English in globalization has had an influence on language policies and language education policies across many countries around the world. The first expansion was mostly in Europe, when EMI programmes in European higher education institutions expanded by 1,000% between 2001 and 2014 (Wächter & Maiworm, 2014). Around 55 countries have adjusted their education policies to teach content courses in English over the last 10 years (Dearden, 2015). This global phenomenon is becoming increasingly popular also in Asia. In China, for example, which is relatively new to EMI compared to European nations, EMI implementation is considered critical for increasing the quality of undergraduate university programmes.

In the Arab world, English retains a more prominent position than ever, especially in the Gulf regions, where many people believe that learning English is beneficial and

offers them many advantages (Habbash & Troudi, 2015). Thus, the majority of public and private higher education institutions in the Gulf, including those in SA, have adopted the EMI policy. In contrast with universities in Europe, where only a few programmes are taught in English and students are familiar with EMI prior to the tertiary level, students in the Saudi context learn content knowledge through the Arabic medium of instruction (AMI) in primary, intermediate, and secondary levels. However, this changes when they enrol in tertiary education, where they have no option but to study in English at the universities, especially in science disciplines.

The provision of EMI is adopted by many non-Anglophone countries. The following is a discussion of the rationale of EMI in a variety of contexts.

3.1.1 The Rationale for introducing EMI in higher education

Driving forces

EMI has grown in higher education due to globalisation and internationalisation. 'International' education is considered necessary and understanding of a subject area in one's native language is generally deemed insufficient. From a global perspective, adopting EMI is seen as important for different global purposes: to improve graduates' employability in both home and international markets; and to offer the opportunity to mix and interact with students from different countries, which would help in developing students' intercultural competence and, therefore, enrich their learning (Galloway et al., 2017). Since the majority of internet and academic fields resources are available in English, this has also led to the perception that English serves global purposes, especially in academia and business (Crystal, 2003). Even though language learning is not an explicit goal of EMI, many stakeholders in different contexts believe that learning content materials in English will improve English skills alongside academic content knowledge (Ali, 2013; Macaro, 2015; Rose & Galloway, 2019; Shohamy, 2013). This is seen to be associated with the country's economic development and is consequently a desirable characteristic that governments are keen on promoting (Ali, 2013).

Development of EMI in higher education in individual countries is determined by their varying political, social, and educational contexts (Björkman, 2018; Doiz et al., 2012). The first countries to apply EMI were the European countries. The growth of EMI in European countries is a result of the Bologna Declaration in 1999, which aimed to establish a European higher education area (EHEA) that would foster academic collaboration and student and faculty mobility (Kirkpatrick, 2011). Through the Bologna Process, academic qualifications among European universities can be transferred and recognised. The motivations of European universities providing English-language programmes are mostly to attract international students and teachers, to educate local students for the global market, and to boost the institution's reputation (Doiz et al., 2011).

The adoption of EMI Across East and Southeast Asian countries is different from country to country due to the differences in the sociolinguistics and the presence of English in each of these countries (Nunan, 2003). In China, for example, increases in EMI programmes tend to be motivated by three factors: preventing local students' outflows and minimising 'brain drain'; attracting overseas students and enhancing higher education institutions; and increasing and diversifying opportunities for knowledge exchange (Coleman, 2006; Huang, 2006; Kirkpatrick, 2011). For Korea and Japan, internationalisation was introduced early, in the late 1990s (Mok, 2007), in order to increase the attraction of international students, enhance the universities reputation, become more competitive in the global market as well as to strengthen their partnership with prestigious foreign universities (Hou et al., 2013).

The Gulf countries, notably SA, have prioritised the adoption of EMI in an attempt to maintain their competitive edge in international trade and business. The EMI policy in SA tends to be more a national strategy aiming for increasing the opportunities for citizens to become proficient in English so they can keep pace with international progress and be able to participate in the global market (Phan & Barnawi, 2015) (further discussion of EMI in SA in Section 3.1.5).

Despite these stated goals, research on the effectiveness of EMI is mixed; the following section delves further into benefits and challenges of adopting EMI policy.

3.1.2 Benefits and challenges of EMI

The advantages of EMI have been the primary motivators for its adoption in a variety of higher education contexts. Curle et al. (2020b) summarised the perceived benefits gained from EMI, as shown in Figure 3.1

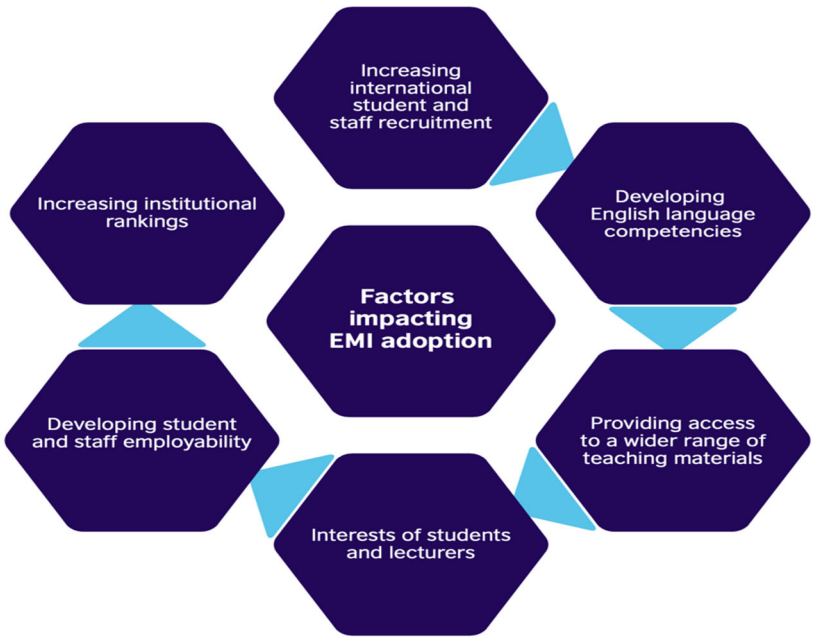

Figure 3.1 The perceived beneficial factors impacting the EMI adoption (adapted from Curle et.al., 2020b, p. 21)

There appears to be broad agreement on the multiple advantages of adopting EMI policies, including recruitment of international student and faculty, fostering cultural variety, language acquisition, enhancing prestige, and providing access to various teaching materials. EMI has the potential to provide significant benefits to the students' future careers, both domestically and internationally. EMI is seen as advantageous not only to students, but also to the institutions that implement the programme since it helps internationalise the universities, raises their profile and become more visible to enhance its reputation, and it boost rankings (Altbach & Knight, 2007; Doiz et al., 2011; Curle et al., 2020b; Hu, 2009; Hughes, 2008). The

institutions that do not offer courses in EMI run the risk of being internationally isolated since they may not be able to attract international students and instructors (cf. Björkman, 2010; Doiz et al., 2011). A close relationship exists between the international dimension of English and the status associated with it, which promotes the idea that EMI institutions offer degrees that will open doors to the job market and facilitate career mobility (Shohamy, 2013, p. 201).

When it comes to studying content subject and language, a 'widely purported benefit of EMI is that it kills two birds with one stone … [and] students simultaneously acquire both English and content knowledge' (Rose et al., 2019, p. 2). EMI is also praised for offering dual acquisition, 'two for the price of one,' which provides a competitive edge to both domestic and international students since learning English as a foreign language is no longer regarded adequate (Knapp, 2011, p. 53). The use of EMI has been found to help students improve their English proficiency. Nevertheless, the results of studies in this area remain inconclusive. On the one hand, Chang (2010) and Barrios and López-Gutiérrez's (2021) research on Taiwan and Spain, respectively, indicated that EMI improved students' English language competence, particularly in the skill of listening. On the other hand, Lei and Hu (2014) found that EMI had no substantial impact on Chinese students' English proficiency. Findings from the Gulf also demonstrate that learning in English improves language skills over time (Belhiah & Elhami, 2015; Wanphet & Tantawy, 2018, in the UAE; Al-Mahrooqi & Tuzlukova, 2014, in Oman; Pessoa et. al., 2014, in Qatar). Nevertheless, the majority of these studies were based on students' self-perceptions of their language progress. Despite the advantages of the EMI in tertiary education, particularly improving language proficiency, policymakers need to consider the difficulty students encounter in transitioning from the native language in secondary schools to EMI at the tertiary level (Shohamy, 2006; Tawash et al., 2021), as in the case of Saudi context (discussed further below).

However, adopting EMI is also raising concerns in several areas. Several researchers in Europe, for example, have expressed their fear that European languages are being marginalised in research publishing, in higher education, and in international relations

(Phillipson, 2009). Teaching science materials in English means that publishers discontinue producing science books in the national languages of Europe, which will no longer be considered as languages of science (Macaro, 2015). As in Europe, the fear of domain loss is also prevalent in Asia. Kirkpatrick (2011), for example, expresses his concern that six of Hong Kong's eight government-funded institutions are officially using English as a medium of instruction, and, consequently, the Chinese language is being undermined. This concern regarding domain loss is also extended to the Arab world. A number of studies conducted in the Arab world have shown that teaching in English solely might lead to linguistic-cultural dualism, in which English is perceived as 'as a symbol of technology and modern life, travel and employment, while Arabic is educationally marginalised and is seen to represent tradition, religion and even worse, backwardness' (Habbash & Troudi, 2015, p. 62). In the UAE, Findlow (2006) employed a questionnaire and semi-structured interviews to investigate 500 students' perceptions of EMI at three higher education institutions. Results show that students have a tendency to link modernity, internationalism, secularism, business and material success with English, whereas localism, religion, tradition, and emotions were strongly associated with Arabic.

The growth of EMI has also sparked concerns about educational quality (Shohamy, 2013). The source of these concerns lies in the absence of pedagogical and organisational rules to enable successful EMI learning and teaching (Dearden, 2015), and the paucity of content instructors who are also linguistically qualified (Chapple, 2015). Pun and Thomas (2020) emphasise that many of the difficulties experienced in implementing EMI regulations arise from a lack of English proficiency among instructors and students. They found that instructors often teach in students' mother tongue in order to make up for their or their students' limited commands of English. Inadequate language competence on the part of students (Cots, 2013; Doiz et al., 2011, 2013; Galloway et al., 2017) can make it difficult for them to learn academic material, limit class engagement (Knapp, 2011), increase dependence on local instructors, and negatively impact student anxiety and motivation levels (Inbar-Lourie & Donitsa-Schmidt, 2013). In other studies, they found that students preferred NES instructors

as those instructors can model English better and therefore help students improve their English proficiency (Kym & Kym, 2014). In the literature emphasis has been placed on the instructors' backgrounds (NES or NNES). I will show that some of this discussion is shaped by a native speakerism ideology.

3.1.3 Native speakerism ideology and dichotomy between NS and NNS

For years, the dichotomy between NS and NNS in ELT has attracted considerable attention from scholars (e.g., Dy & Oladele, 2019; Ling & Braine, 2007; Ma, 2012, 2015; Moussu & Llurda, 2008) because of the belief that the cultural and linguistic differences in instructors' groups may influence their pedagogical practices, teaching methods, and attitudes. Since the primary focus of this research is the NNES instructors associated with the Saudi context, it is necessary to examine the assumptions of a native speakerism ideology and how these negatively affect NNES instructors. The term 'native speakerism' was first used in ELT by Holliday (2005) to refer to the belief that a NS exemplifies the linguistic and pedagogical principles of teaching English, which are derived from Western culture. It is pointed out by Houghton and Rivers (2013) that native speakerism is a product of the dichotomous discourse of 'us' and 'them', 'NS' and 'NNS', where NSs are considered to be ideal and superior in terms of language usage and teaching abilities, while NNSs are considered to be inadequate and inferior. Studies of NS and NNS instructors (e.g., Dy & Oladele, 2019; Ling & Braine, 2007; Ma, 2012, 2015; Moussu & Llurda, 2008) show that the abilities of these two groups are categorised according to essentialist preconceptions about what they can and cannot do inside the classroom. For example, NESs are positively characterised as more fluent, more knowledgeable about the target culture, and linguistically more authoritative and sociolinguistically competent than NNESs. On the other hand, NNESs are associated with negative traits such as a lack of language skills and cultural awareness (Braine, 2010). Being a part of the NS in-group may have numerous advantages, such as prestige and influence, access to the job market, particularly in ELT. This privileged position further contributes to the

native speakerism and professional discrimination experienced by NNES instructors (e.g., Mahboob, 2004).

Due to the lack of clear and agreed-upon definitions of NS and NNS English, ELT scholars have proposed dropping them and using more comprehensive labels (Braine, 2010; Jenkins, 2015). Jenkins (2015) proposed dividing English speakers into three categories: monolinguals, bilinguals, and non-bilinguals. The first term, 'monolingual English speakers' has been adopted to describe those who speak English only but do not speak any other language. The second term, 'bilingual English speakers', refers to those who are fluent in both English and another language. The third term, 'non-bilingual English speakers' refers to English speakers with low English proficiency. The advantage of this new labelling is that it moves away from the notion that a NNS is inferior to a NS and places emphasis on what they are – bilingual speakers of a language – rather than what NNS are not (Jenkins, 2015). However, these terms have not completely replaced the phrases NES and NNES, which are still widely used in ELT (Braine, 2010; Ling & Braine, 2007; Llurda, 2005; Moussu, 2006). Lately this debate has moved to the field of EMI (Inbar-Lourie & Donitsa-Schmidt, 2020; Karakas, 2017; Qiu & Fang, 2019).

Labels such as 'NS' and 'NNS' and the fact that people can be excluded due to the lack of a 'native speakers' status, are often driven by racism, in which solely white people with Western appearances may be considered to be authentic and legitimate NESs (Kubota & Lin, 2006). Although Kachru's three circles model was designed to show ownership of English in postcolonial or 'outer circle' countries, it has been interpreted as setting up an authenticity of NS in the "inner circle" countries that is associated with race (Marek, 2018). Non-inner circle countries' speakers, and those without a white or Western appearance, are not considered to be authentic NESs. Thus, NSs of a race different from that of the inner circle (Higgins, 2003) can be marginalised, and NNESs who look white and have a Caucasian appearance, e.g. in Japan, may be treated the same as their NES counterparts and receive the same privileges (Toh, 2013). In India, in spite of the fact that English is an official language

and primary lingua franca of the country (Jenkins, 2015), Indian English is not accorded the same status as British or American English since it is spoken by non-white and non-Caucasian individuals; it is not regarded as authentic English (Lowe & Pinner, 2016). In a similar vein, Saudi students, in the present context, have limited knowledge of India's history with English and, therefore, they perceive and classify Indians as NNESs, based on their skin colour and their preconceived image of NES instructors with a Western appearance.

The terms 'NES' and 'NNES' are therefore occasionally used in the present study on how Saudi students perceive their NNES EMI instructors from diverse backgrounds. However, this study did not focus on the differences between NNES and NES instructors, but rather it identified the instructors used in both strands of data (qualitative and quantitative) by stating their nationalities, and referring to them as Saudi instructors, Egyptian instructors, or Indian/Pakistani instructors. There are certain parts in the current study where it helps to use the terms NES and NNES. The reasons are, on the one hand, students have internalised native speaker ideologies, thus it would be better to use these terms with them, to discuss the issue most effectively. On the other hand, the terms are used as an attempt to characterise instructors and convey the fact that there are few NES instructors in this context, and many speakers from outer and expanding circles. Furthermore, although using these terms could perpetuate the myths associated with them, it does not seem feasible to completely abandon them as this would make it difficult to review the literature on NES and NNES in EMI and ELT, since both terms have been extensively used in these fields. Additionally, a variety of academics, while acknowledging the problems associated with these labels, continue to utilise them in their studies on native speakerism (e.g., Braine, 2010; Llurda, 2005; Mahboob, 2004; Selvi, 2014).

NES and NNES instructors in EMI

The debate about NES vs. NNES instructors has shifted from ELT, where the emphasis is on the language as a field of study, to teaching academic content with EMI in contexts where English is not the dominant language (e.g., Doiz et al., 2013).

The global development of EMI appears 'to be a promotion of native-speakerism, a monolingual mindset, and English-only policies' that has not been supported by the same amount of discussion as has occurred in the field of ELT (Sahan et al., 2022, p.2). In the context of EMI, there is also a debate concerning the native speakerism and NES and NNES instructors; however, EMI students' perceptions of those instructors may be influenced by the course disciplines and the importance of acquiring the knowledge. Challenges to native speakerism from the field of Global Englishes have been taken up in EMI. This perspective challenges the importance of the NES's background and promotes multilingualism (Rose et al., 2022). However, in some contexts, an NES background is still viewed as a significant attribute for EMI (e.g., Inbar-Lourie & Donitsa-Schmidt (2013, 2020) in Israel; Karakas (2017) in Turkey; Kym & Kym (2014) in Korea). This preference also extends to hiring practices, as recruiters tend to prioritise EMI instructors with experience from Anglophone countries. A recent study of EMI provision in 52 middle- and low-income countries found that higher education in these countries preferentially hired EMI instructors with postgraduate degrees or work experience from Anglophone universities (Sahan et al., 2021). Similarly, a study conducted in Vietnam and Thailand showed that students in both countries considered an overseas degree to be important for EMI instructor success (Sahan et al., 2022). This preference for NES instructors reinforces the native speakerism ideology and the stereotype that NES instructors are better than NNES instructors.

A number of studies have started to examine the variety of Englishes utilised in higher education, for example to establish which English is predominant and therefore how NES and NNES instructors are classified and described. Several studies have tried to determine the relative merits of individual EMI instructors and they have shown that in the context of an international institution, inner circle English varieties are still preferable and NES instructors are considered as being inherently better instructors. Nevertheless, research investigating students' perceptions of their NES EMI instructors found contrasting opinions. For instance, they found the authenticity of the language, the accuracy in transferring the knowledge, and the ability to improve

the English proficiency as the strongest reasons (e.g., Inbar-Lourie & Donitsa-Schmidt, 2020; Karakas, 2017; Kym & Kym, 2014; Suviniitty, 2007). On the other hand, NES instructors may have difficulty connecting with their students culturally or explaining complex concepts using the students' native language. Furthermore, NES instructors have been faced with a wide range of student proficiency levels, requiring them to adjust their language and rephrase and paraphrase as necessary (Vogel, 2021).

In a similar vein, opinions on the NNES yield controversial findings. For learning with NNES instructors, a wide range of difficulties might be predicted for students in EMI programmes. Research in this field, for example, indicates that NNES instructors have difficulty and lack confidence when it comes to teaching in an EMI (Early & Norton, 2014; Goodman, 2014). In some instances, it is not uncommon for instructors who share the students' native language to default to teaching in that language (Shamim et al., 2016). Moreover, a significant issue is identified in relation to the instructor's pronunciation of English, that is, accent (Bolton & Kuteeva, 2012; Hellekjær, 2010; Siegel, 2020), with students complaining that they frequently find it difficult to comprehend the instructors' accent. Bolton and Kuteeva's (2012) study conducted in Sweden shows that instructors' English skills vary greatly and can have a detrimental impact, particularly on non-Swedish students. Concerns were highlighted regarding the instructors' strong accent that might impair and interfere with students' comprehensibility (Bolton & Kuteeva, 2012). Students added more comments on the use of EMI, and several of them expressed negative opinions about attending EMI courses, citing their instructors' limited language abilities. These remarks were mostly directed towards non-native accents, and were repeated by many Swedish students (Björkman, 2010). While no evidence has been found to suggest that instructors' accents are the cause of actual comprehensibility problems (such as misunderstandings or lack of understanding of the material given in lectures) (Airey, 2009), studies have found that students' subjective perceptions of difficulty are commonly attributed to accents. However, the results of early investigations on the intelligibility and comprehensibility of foreign accented speech indicates that it is not always difficult to understand accented speech (Munro & Derwing, 1995a). Thus,

students' experiences and biases could have moderated the comprehensibility of those instructors.

Although students in the above studies were more critical of EMI NNES instructors, in recent studies, bilingual and multilingual instructors have been found to facilitate richer interactions via translanguaging practices (Rose et al., 2022). Students felt more relaxed when studying with NNES instructors and reported that they were able to comprehend them better, since they share the same first language (Inbar-Lourie & Donitsa-Schmidt, 2020; Karakas, 2017; Mu, 2020; Qiu & Fang, 2019) and develop translanguaging practices using L1 or multimodal devices to convey concepts or content materials, which students perceived as increasing teaching effectiveness (Mu, 2020). However, students' descriptions of the characteristics that they desire in EMI instructors (e.g., Inbar-Lourie & Donitsa-Schmidt, 2020; Karakas, 2017) (reviewed in section 3.4) demonstrate a novel construct that goes beyond the concept of the native speaker and is unique to the EMI context. Hill et al. (2003) in their study with focus groups that included a wide range of higher education students; they found that EMI instructors are applauded by students in higher education for their knowledge, flexibility, organisation, and professionalism, as well as caring for the learning process of their students and sympathising with their special requirements.

To conclude, EMI studies generally treat all NNES instructors as one entire group, and, therefore, present different perspectives from students without taking into account the instructors' different linguistic and cultural backgrounds. However, and as a result of using English in teaching, issues arise, and one of these challenges that deserves more attention is the instructor's accent, intelligibility, and comprehensibility. Having recognised that the instructors' accents are a target of students' complaints, the question to be addressed is whether students perceive those instructors in the same manner, or do their attitudes change depending on the NNES instructor's L1 background? Further discussion of this issue is provided in Section 3.4 with relevant research from the EMI context.

3.1.4 Hiring content instructors in the EMI context

Hiring content instructors, is one of the most significant issues confronting EMI programmes due to the dearth of trained instructors. Numerous factors contribute to this shortfall. Studies in different countries indicate that it is a challenge to find qualified local and international instructors willing to teach in English (Bradford, 2013; Dearden, 2015; Vural & Dinçer, 2022). Even though bilingual instructors seem preferable for EMI programmes, most programmes have difficulties finding instructors who are qualified in terms of both language and subject matter (Pérez Cañado, 2016; Shohamy, 2013). Instructors with the language skills may not have the content knowledge, and instructors with the content knowledge may not have the language skills. This is a key issue in higher education, since obtaining content expertise is difficult and time consuming, and there is a dearth of instructors' training programmes for content specialists (Martinez & Fernandes, 2020; O'Dowd, 2018). Cots (2013) argues that implementing EMI necessitates a considerable change in methodologies, and content instructors may be unfamiliar with the necessary changes. According to the author, EMI technique entails moving the focus of classrooms away from knowledge transmission and toward increased student engagement, as well as supporting students' understanding of the subjects through the use of tools and resources. An approach of tandem teaching where instructors from the content and language fields collaborated closely was suggested by Cots (2013), a technique that is also suggested by other scholars, such as Dearden (2018).

When recruiting EMI bilingual instructors, another obstacle that emerged is the instructor's limited competence in language proficiency. This problem may lead to struggling to explain dense subject matter to their students and that can have a negative impact on classroom engagement and dynamics (Shohamy, 2013). They may find it difficult to navigate unfamiliar information in English, especially if they are not subject matter experts (Galloway et al., 2017), and as a result, their professional status may suffer if they are unable to communicate effectively in English (Cots, 2013). Furthermore, instructors' restricted linguistic repertoire may have an adverse

effect on the overall instruction quality (Coleman, 2006; Galloway et al., 2017). Instructors who are reducing and simplifying the content subjects may speak more slowly or spend additional time to clarify or explain specific topics in English (Hu, 2009; Knapp, 2011). For example, Thøgersen and Airey (2011) found that when delivering the content materials in English, instructors took longer than they did in the L1. A slower pace, several repetitions of information, and more formal textbook styles language were among their observations of the delivery of lectures in English.

Furthermore, a special focus in EMI studies is also placed on the backgrounds of EMI instructors, especially when it comes to NES and NNES (Inbar-Lourie & Donitsa-Schmidt, 2013, 2020; Karakas, 2017; Kym & Kym, 2014; Sahan et al., 2022). The recruited instructors are usually both local and international (NES and NNES). In terms of NES recruitment, as can be the case of the Asian countries, it can help to mitigate some of the difficulties connected with NNES capabilities and an increasing workload, as well as give the EMI programme a more global dimension (Bradford, 2013). However, recruitment and retention of these instructors is difficult, as high pay may be needed to attract them, and they may not be available for long-term teaching contracts (Ammon & McConnell, 2002). In terms of students' perceptions of those faculty members, it is possible that students in EMI courses—where content learning dominates language focus—do not find NES instructors of equal importance as in language-focused courses (Karakas, 2017). However, the power associated with English 'gives native speakers undue advantages' (Li, 2012, p. 65) and makes English a gatekeeper in academia (Shohamy, 2013). As a result, this puts the NES instructor in a competitive position in EMI academia with NNES instructors as previously discussed in section 3.1.1.

In comparison to NES instructors, mainly local NNES instructors were found to be better suited for university employment in EMI programmes in Italy (Costa & Coleman, 2013) and in Turkey (Vural & Dinçer, 2022). The fact that EMI local instructors and students speak the same L1 is an essential factor to be considered when developing the policies. On the one hand, instructors could take advantage of the translanguaging practices and shared L1 for the purpose of teaching difficult and

complicated topics, which may help students learn more effectively (Vural & Dinçer, 2022).

On the other hand, local instructors with shared L1 increases the possibility of over dependence on the L1. The fact that instructors and students both speak the same L1 increases the likelihood that they will switch into their mother tongue in order to overcome communication challenges, or just because they prefer it since it is more natural (Probyn, 2001). Such switching might be problematic because in the EMI classrooms there is a mixture of students, including a large number of international students whose L1 is not that of the majority (Macaro, 2019). Nonetheless, the populations of employed content instructors and enrolled students at the EMI institutions vary from one context to another. In European universities, for example, the normal scenario is NES and NNES instructors are commonly found with various L1s and teaching classes that include NES students, NNES students with varieties of L1s, and local students (Clark, 2018). However, in the Gulf context, the situation is different. The student population is homogeneous (local students), especially in public universities. The communication and interaction are in their L1 (Arabic) and L2 (English). Moreover, a high proportion of international instructors from a wide variety of countries are teaching beside the locals, from Arab and South and East Asian countries (Louber & Troudi, 2019 in SA) and from NES (Belhiah & Elhami, 2015 in UAE).

3.1.5 Challenges of teaching and learning with EMI instructors

Since instructors continue to be the predominant means of knowledge transmission across the world's higher education institutions, it is essential that we shed light on how EMI instructors are perceived and comprehended by students. Students' perceptions are shown to be related to instructors' English proficiency or partially to the teaching styles of those instructors. Research shows that students enrolled in EMI courses have mixed experiences with EMI instructors. In some studies, students indicated that they had no difficulty comprehending instructors who delivered content materials in English (Andrew, 2017; Belhiah & Elhami, 2015; Wanphet & Tantawy,

2018). In Belhiah and Elhami (2015) study, they employed questionnaires and distributed them to students (*N* = 500, including Emirati and Arab expatriates) attending EMI courses at six institutions in the UAE. The vast majority of students (83%) reported that they had no problems understanding lectures and instructors' English. Nevertheless, these students, as Belhiah and Elhami explained, had solid English backgrounds prior to enrolling in the EMI programme at their universities.

Wanphet and Tantawy's (2018) mixed methods study set out to examine the perceptions of university students and instructors about the use of EMI in science courses in the UAE context. The study used self-report questionnaires distributed to students *(N* = 100) and conducted interviews with students (*n* = 10) and instructors (*n* = 4) about the influence of EMI on their English academic skills. The findings show that most students revealed a preference to study in English only, whereas the instructors advocated bilingual instruction. Furthermore, students also preferred NES instructors to teach them content courses; however, it was not clear whether students' opinions were influenced by their experiences with NES instructors, or the answers were purely theoretical.

Researching EMI in a Danish university, Jensen et al. (2013) asked students (60% Danish) to assess authentic recordings of NNES instructors with varying degrees of English proficiency. They found that students' perceptions of their instructors' English abilities influenced their assessments of their instructors' overall disciplinary competence. In other words, instructors with a low rating in English language ability were also rated as less competent scholars, with less interesting and less academically rewarding lectures. Jensen et al. (2013) could not definitively prove causality between the proficiency and teaching competence, but they highlighted that students' attitudes towards their instructors are influenced by linguistic traits such as perceived degree of accentedness.

Students in other research, however, have reported difficulties understanding lectures delivered in English by EMI instructors (e.g., Airey & Linder, 2006; Bolton & Kuteeva, 2012; Byun et al., 2011; Evans & Morrison, 2011; Hellekjær, 2010; Miller,

2009; Siegel, 2020). The most common issues with EMI instructors include difficulty explaining complicated concepts and vocabulary, delivering lectures at a rapid pace, speaking with unclear pronunciation and accents, and students' inability to maintain concentration throughout EMI lectures. In a large-scale study from three Norwegian institutions, Hellekjær (2010) employed self-report questionnaires that were distributed to 364 students and found that approximately half of the participants, which included local and international students, had challenges in comprehending lectures that were delivered in English as compared to lectures in their native language. Among these challenges that students reported is the instructor's unclear pronunciation, difficulty keeping track of the lecture and taking notes. Researchers found that students spent a longer time taking notes than attempting to comprehend what the lecture was about.

Therefore, in different contexts, students preferred translanguaging practices when they could use their own language with instructors who could use their L1 in the classroom. Through translanguaging practices, bilingual and multilingual NNES instructors facilitate richer interactions and provide an alternative to English-only instruction in EMI classrooms (Rose et al., 2022). The subject of NNES instructors who use translanguaging practices for teaching and learning has become a rich field of scholarship in different contexts such as the UAE (e.g., Hopkyns et al., 2021), China (Wang & Curdt Christiansen, 2019), Turkey (e.g., Sahan, 2021a), and Thailand (e.g., Sameephet, 2020). These researchers have shown that students and instructors in EMI contexts generally support translanguaging practices, in spite of an EMI policy that promotes monolingualism. While researchers have viewed instructors' use of L1 as a helpful means of coping with the challenges associated with students with low English proficiency (e.g., Chang, 2021; Pun & Thomas, 2020), a body of studies shows that translanguaging facilitates the comprehensibility of the subject matter through its affordances as a pedagogical practice (e.g., Lin & He, 2017; Wang & Curdt Christiansen, 2019; Wu & Lin, 2019). Translanguaging has been found to be a transformative process that fosters a learning environment where learners' multilingual resources are valued and recognised (Tsou, 2021).

The meta-analysis by Lo and Lo (2014) of 24 EMI studies carried out in Hong Kong since 1970 highlights the significance of moderating variables that contribute to the challenges in learning in EMI. Lo and Lo (2014) state that 'the socio-linguistic context, the actual program implementation in schools, students' language proficiency, teachers' pedagogical practices, and the typological differences between the languages involved' (pp. 65–66) all have an influence on students' learning in EMI programmes. They regarded the EMI instructor as a recurring variable, since the students' perceptions of the EMI and comprehension of content materials are based on their instructors as one factor among others. Kym and Kym (2014) also point out that the instructors' backgrounds, such as whether they are NES and NNES and their ability to use English, as well as the students' backgrounds knowledge and study abroad experiences, also play a crucial role as moderating factors in explaining how EMI affects student learning (Kym & Kym, 2014).

Notably, most of the EMI research studies the benefits and challenges of EMI as a policy and the practices that goes along with it. Little attention is given to the instructors and the students' perceptions towards them, especially the NNES instructors who come from different L1s and cultures to the context of the teaching. Despite the growing interest in EMI, the question of how NNES content instructors are perceived by students remains unanswered. In the following sections I situate the debates in the Saudi context.

3.1.6 A picture of EMI in Saudi Arabia

As discussed in Chapter Two, SA has witnessed unprecedented economic and social growth, and this has led to great changes in the education sector. Introducing EMI is one of these changes, though the EMI as a policy is not explicitly stated. Universities' responses to the internationalisation have been demonstrated through adopting EMI in teaching content subjects. The universities made the decisions and forwent the language policy of Saudi universities, which advocates the instruction to be in Arabic (Al-Kahtany et al., 2016). This decision is supported by the government, which allocated a huge budget to internationalise higher education through top-down

policies and establish collaborations with different foreign universities for keeping pace with globalisation and benchmarking academic programmes (Barnawi & Al-Hawsawi, 2017).

Since the majority of students at Saudi universities are Saudis, the larger goal of adopting EMI in Saudi universities appears to be more relevant to the national (home) strategies, improving the quality of Saudi undergraduate education and empowering Saudi graduates to participate successfully in the international economy (Phan & Barnawi, 2015). Thus, Saudi's aim of implementing EMI tends to be distinct from other countries, mainly Europe, which aims to attract and increase the intake of international students for achieving an intercultural mix at their campuses (e.g., Doiz et al., 2011).

Although the Saudi Ministry of Education is reforming education by teaching English language in early grades at schools, students still lack English proficiency (Alfehaid, 2018; Alhamami & Almelhi, 2021b; AlZumor; Shamim et al., 2016). One of the challenges that students experience is transitioning from AMI schools to EMI institutions, in which they must comprehend English instructions. Students study content subjects in science disciplines through EMI, and for those who have a limited grasp of the English language, they may become totally lost in translation, confused, frightened, and demotivated (Ebad, 2014). The sudden change has a negative impact on how they learn and perform, and as a result, bad grades, drop-outs, and low achievements are common outcomes (Ebad, 2014). Students in classes were observed as

> being inattentive, looking through the roof, chewing pens, and low turn outs which are the indications of loss of connection and communication between the students and the instructor. At times students demand the use of Arabic-English bilinguals in order to translate common Arabic words into English. (Ebad, 2014, p. 141)

It appears that Saudi institutions are concentrating their efforts on growing the number of EMI-enabled programmes while ignoring the hurdles that come along with this approach. This includes the transition from AMI to EMI without considering that students' language proficiency exacerbates the challenge to both students and instructors. Using a foreign language as a medium of teaching adds additional learning demands on students, and Troudi (2007) asserts that these demands have a negative impact on students' academic performance. Moreover, and most relevant to the current study, because of a lack of Saudi instructors in higher education, the government has hired foreign instructors. Since those instructors come from different educational and cultural backgrounds, students learn differently with expatriate instructors than with local EMI instructors, and some of those expatriates do not speak the local language.

In SA, however, there seems to be no research that examines students' attitudes and perceptions on learning with expatriate EMI instructors (for a review of research in different contexts see Section 3.4.1). As a result, further examination in this field of research is urgently needed.

3.1.5.1 Research on EMI in Saudi Arabia

Despite the growing trend of EMI, research in the Saudi context is scarce. The research focused initially on the practicality of the EMI approach, as well as the perceptions of students and instructors to this strategy. Prior EMI research has addressed four aspects, which are summarised in Table 3.1.

Table 3.1 A summary of EMI research in Saudi context

Type of research	Conducted Research
1. Students' perceptions of EMI approach	Alfehaid, 2018; Alhamami & Almelhi, 2021b; Al-Kahtany et al., 2016; AlZumor, 2019; Louber & Troudi, 2019; Shamim et al., 2016
2. Instructors' perceptions of EMI approach	Alfehaid, 2018; Alhamami & Almelhi, 2021b; Alhamami, 2015; Al-Kahtany et

	al., 2016; AlZumor, 2019; Louber & Troudi, 2019; Shamim et al., 2016
3. The effect of EMI on undergraduate programmes (majors) or a specific programme (major).	Alhamami, 2021; Alhamami & Almelhi, 2021a; Alhamami & Almelhi, 2021b
4. Students' or instructors' comparisons of EMI and AMI in teaching content materials.	Alenezi & Kebble, 2018; Alhamami, 2015; Alhamami & Almelhi, 2021b; Al-Kahtany et al., 2016; Al-Jarf, 2008; Ebad, 2014;

EMI in SA appears to be largely neglected by both local and international scholars. From the above table, EMI has become a matter of discussion about the perceptions of the stakeholders (students and instructors), and the research mostly uses self-report questionnaires asking about (a) using EMI in teaching content subjects, (b) the effect of using EMI on one or multiple programmes, or (c) comparing between using English or Arabic as a medium of instruction.

For the first category, students showed controversial results. Some studies (e.g., Alfehaid, 2018), explored the experiences of EMI among preparatory year students and instructors using questionnaires, semi-structured interviews, and classroom observations. Research conducted in the first and second semester at two separate periods showed that both students and instructors had favourable attitudes towards EMI. Students not only revealed favourable attitudes towards EMI but also reported a general improvement in their language skills. Despite this claim, students reported challenges linked to language that adversely affected their content learning. In several instances students 'pointed to peculiar accent or, more precisely, occasional problems with [in]comprehensible pronunciation' (Alfehaid, 2018, p. 81). The researchers investigated the perceptions towards instructors as a whole (in this study, solely Arab instructors) but did not reveal their nationalities. If they had, examining students' perceptions by identifying their instructors' nationalities may have yielded different results for each instructor.

Shamim et al. (2016) investigated instructors' and students' experiences and perceptions about the use of EMI in a preparatory year programme (PYP) in a public University. The study conducted seven interviews with instructors and three focus groups with students (ranging from 6-8 students), finding that, for instrumental reasons, instructors, and students, particularly students with higher proficiency level in English, showed positive attitudes towards EMI. The study highlighted the challenges facing students in learning scientific subjects, especially the lack of appropriate linguistic skills, and in many cases, instructors had to simplify the content of learning by using code-switching into Arabic. The researchers state that

> [S]tudents do not have adequate command of English to follow the lectures, read their prescribed textbooks and answer the exam questions in English only. Hence, they believe that with EMI no learning is possible without first translating everything from English into Arabic. (Shamim et al., 2016, p 42)

Shamim et al. (2016) confirm that EMI policies are less applied in actual classroom practices. This is based on a case study with a small sample size; however, employing observational instruments for actual practices of EMI in classrooms as well as quantitative results with a larger sample size could lead to broader perceptions, both from instructors and students.

A similar point is echoed by AlZumor (2019) in his closed- and open-ended questionnaire. The study examined the challenges of using EMI in teaching and learning scientific disciplines, and identified students' perceptions regarding comprehension of lectures, communication, pedagogy, assessment, and their impacts on the EMI setting. The open-ended comments supported the results and showed that EMI negatively impacts the scientific content. The study identified factors such as students' proficiency and the instructors' intelligibility, where students refer to that

> [S]ome instructors who belong to certain nationalities and have a heavy mother tongue accent that can cause comprehension problems when they use English for teaching. In addition, there are instructors who can be excellent in

> their discipline, but their English does not help them convey the knowledge they have intelligibly. (AlZumor, 2019, p 86)

Once again, the study did not show the L1 backgrounds of those instructors, and students complained about the accent and the intelligibility of the instructors, indicating the possibility that attitudes arise from instructor's ethnicity or accent as a reason among others behind these complaints.

In the second category, studies of the effect of EMI approach in a particular major or majors, and students or instructors' views in these disciplines, researchers indicated that using EMI in major courses impaired students' comprehension of the subject matter (e.g., Alhamami, 2021; Alhamami & Almelhi, 2021a, 2021b).

Alhamami (2021) investigated the impact of EMI policy in undergraduate computer science programmes at public universities. The data was collected from three samples: alumni records (n = 1,316), instructor questionnaires (n = 42), and student questionnaires (n = 250). The findings from alumni records showed that the higher the students' average grades in English in their first years, the better their GPA would be at the end of the programme, suggesting that EMI has had an influence on students with limited English proficiency. Instructors were generally supportive of the EMI policy and believed that students' English competence did not adversely affect their performance or engagement in the classroom. In contrast, students were found to prefer the language of instruction to be in their native language (Arabic) rather than English. Another study, by Alhamami and Almelhi (2021a), used similar methods of investigating alumni records, instructor and student questionnaires from different healthcare majors, including College of Medicine, College of Dentistry, College of Pharmacy, College of Nursing, and College of Applied Medical Sciences, and it showed that students and instructors preferred using AMI rather than EMI. The students' and instructors' perspectives demonstrate that using EMI to teach healthcare courses presents several challenges that negatively affect students' academic performance, particularly for those who are not proficient in English. Interestingly,

the opinions expressed by the students and instructors are in the opposite direction to university policy of adopting EMI.

As regards the third category, the perception between using EMI and AMI in teaching content materials, Al-Jarf's study (2008) examined the views of female students (N = 470) on English and Arabic status, and attitudes towards using English and Arabic as a medium of instruction at the tertiary education. By using an open-ended questionnaire, the researcher found that 96% of the participants viewed English as superior because of its global status, and 82% believed that Arabic would be more suitable for teaching social and human fields. Al-Jarf warns of the danger that English in the Saudi higher education presents to Arabic through its dominant status. This echoes the critical position taken by most researchers in non-Anglo contexts when it comes to the fear of home language domain loss.

On the other hand, Alhamami (2015) conducted a study on EMI Arab instructors coming from different Arab backgrounds (N = 27) teaching in a public Saudi university. The study (closed and open questionnaire) showed that instructors preferred using AMI in their teaching in tertiary education at a Saudi University. Despite the fact that the current strategy is to employ English as the medium of instruction, the findings indicated that Arab instructors believed that using EMI in Saudi institutions poses academic and social obstacles in science education at the undergraduate level.

Similarly, students also preferred using AMI in a study conducted by Al-Kahtany et al. (2016). They employed a questionnaire to investigate the attitude of students (n = 702) and instructors (n = 162) at King Khalid University towards EMI and AMI as an alternative. The students were Saudis, while the teachers were from a variety of backgrounds, including Arabs and non-Arabs, though the study did not specify their countries of origin. The questionnaires were distributed to different science disciplines, including natural sciences, applied sciences, computer science, engineering, and medicine. The results showed significant differences between the two stakeholders, in which students preferred AMI, whilst their instructors preferred

English to be used as the only medium of instruction, although they agreed on the challenges and difficulties encountered when they communicate with students using English only.

3.1.5.2 Concluding remarks

From the above cited research and because of several years of English education, it could be concluded that Saudi students are sufficiently prepared to take EMI courses. However, studies found that students still have difficulties understanding English in content subjects and preferred Arabic in learning the content subjects. This can raise several questions about why it is still problematic for students after all these years of studying English to find it hard studying courses with EMI. Numerous factors can impact the success or failure of EMI implementation (Kym & Kym, 2014; Lo & Lo, 2014), one of which is the EMI instructors, who are the focus of this research.

Some of the students' complaints about instructors in the studies stated above may indicate not just specific issues related to teaching methods, but they may also be linked to negative views of the instructor's ethnicity and accent, particularly as prejudice and discrimination are alive in the SA context as shown by Louber (2021). In his research, Louber found that several instructors (mainly EFL instructors) have experienced some kind of prejudice and discrimination in the hiring processes based on their nationality and nativeness. Moreover, the above cited studies examine instructors as NNES instructors without disclosing their backgrounds. For example, AlZumor (2019) and Alfehaid (2018) found that participating students referred to their EMI instructors' accents and pronunciation as being among the challenges in comprehending the content materials; however, those researchers did not identify the instructors' L1 backgrounds and instead treated them as one group. From previous studies (e.g., Ballard & Winke, 2017; Rubin, 1992; Sheppard et al., 2017) listeners perceive instructors with their own experiences and biases driving their perceptions. It is worth paying attention to the local social context in order to understand how contextual factors in people's surroundings and their social experiences affect their perceptions. In the SA context, it is of profound significance whether students'

evaluations are influenced by the larger expatriate community of which the instructors are a part of. It is, therefore, possible that Saudi students' perceptions are influenced by their attitudes and stereotypes regarding instructors and their accent, but these (the Saudi studies) did not explicitly provide much evidence.

In SA, where the higher educational sector is dominated by expatriate workers, and an abundance of accents in English co-exist, little is known about the attitudes students may hold toward those instructors and their accents within the EMI context. For example, they may perceive instructors from Arab countries according to their sense of in-group, or they may perceive instructors from South Asian countries in relation to a long history of complex labour contacts between SA and these regions. To my knowledge, there has been no previous research in the EMI context which has investigated students' attitudes and perceptions towards NNES instructors with multiple backgrounds in an educational environment. There are some studies that have examined students' attitudes towards EMI instructors (comparing NES and NNES/locals), in a variety of contexts, and the next chapter will discuss these studies in further detail. Thus, more research is needed on this configuration of instructors (NNES from different L1s). One final note is that EMI research in SA higher education is still very scarce. There is, therefore, an urgent need to perform additional investigations in order to fill these gaps in the literature.

EMI research has different and sometimes contradictory conclusions due to the diverse backgrounds of participants, educational environments, and institutional settings. Numerous studies on EMI have been undertaken in contexts where English is an official language (e.g., Singapore) and/or where stakeholders are exposed to English on a daily basis, resulting in high levels of English competence (e.g., Europe). Furthermore, the bulk of studies conducted in European higher education examine the experiences of heterogeneous groups of students enrolled in EMI courses. However, in Gulf countries, where students are generally homogeneous groups of local students who share the same language with local and Arab instructors, not much is known. Therefore, the results from European studies might be limited in their implications and generalisations to other contexts of EMI, such as the Saudi context. More study

on the EMI setting in Arab and other non-European nations is needed to corroborate the existing findings in the literature. In view of that, this research is meant to fill a gap in the literature and cut across various disciplines: EMI, sociolinguistics, speech perception, and social psychology by attempting to elaborate on students' implicit and explicit attitudes towards multiple NNES EMI instructors with different accents and nationalities and test the impact of students' attitudes on instructors' perceptions in terms of intelligibility, perceived comprehensibility, and perceived foreign accentedness. The next part of the literature review addresses these concepts, starting with language attitudes and then moving to speech constructs and showing their relevance to this research.

3.2 (Language) attitude and speech perceptions construct

3.2.1 (Language) attitudes

Even though attitudes have received a great deal of interest from a wide range of research areas, the exact nature of attitudes remains a largely debated question. While attitudes are recognised as a distinctive concept in social psychology, there is no single definition to which researchers adhere, and many have been proposed by psychologists (Cargile et al., 1994). Attitudes have been defined from a variety of perspectives, resulting in semantic disputes and arguments regarding the term's generality and specificity. Attitudes are generally considered to be composed of three components: cognition, affect, and behaviour (Edwards, 1982). The first component, cognitive, refers to beliefs about the attitude object. For example, that (language) attitude may be reflected in a student's belief that an NNES instructor of a particular variety of English (or nationality) is better or superior to another NNES instructor. The second component, the affective component, involves emotions and reflects positive or negative feelings towards that object, for example, preference for this instructor. The third component, conation, which refers to behaviour directed to the attitude object, for example, refers the attitude concept to a tendency to behave in a certain way such as attending or dropping classes of those instructors. As a result,

language attitudes are defined as any cognitive, affective, or conative measure of evaluative reactions to various forms of language or their speakers (Ryan et al., 1982). The term 'language attitude' was also defined by Richards and Schmidt (2002) as 'the attitudes which speakers of different languages or language varieties have towards each other's languages or to their own language' (p. 286). Additionally, they stated that language attitudes 'towards a language may also show what people feel about the speakers of that language' (p. 286). In these definitions, speakers are included because language has a close relationship with social identity, that is, the aspects of a person's self-concept that are associated with their membership in certain social groupings (Tajfel & Turner, 1986). Language has long been recognised as a critical marker of social identity, and attitudes towards certain varieties of English reflect attitudes about the speakers of those varieties (Garrett et al., 2003). As such, attitudes based on a speaker's variety can be considered as indirect attitudes based on a speaker's (perceived) socioeconomic status, country of origin, ethnicity, or any other social group membership. These definitions are appropriate for the context of my research because the contexts of this research, the Saudi context and EMI context, are both home to Saudi and non-Saudi, both of whom have diverse cultural and linguistic backgrounds. As a result, my research is directly related to Saudi students' evaluations of English varieties and their speakers.

Implicit and explicit attitude

After defining 'language attitudes,' it is necessary to understand what this study refers to as 'implicit attitudes'[6] and 'explicit attitudes' regarding speakers and their English. Implicit attitudes are defined by Greenwald and Banaji (1995) as 'introspectively unidentified traces of past experience that mediate favorable or unfavorable feeling, thought, or action toward social objects' (p. 8); as such, they exist beyond the awareness of the respondents. They are delivered from the more deeply entrenched,

[6]Attitudes that are explicit or implicit are sometimes referred to as 'overt' or 'covert' attitudes (e.g., Fazio et al., 1995; Fazio and Olson, 2003; McConnell et al., 2008). Throughout this thesis, the terms explicit and implicit are adopted to describe the kind of attitudes that result from using the Implicit Association Test research conducted by Greenwald et al. (1998) and Greenwald & Banaji (1995)

automatic associations individuals have formed. Explicit attitudes, on the other hand, are defined as the 'attitudes that people can report and for which activation can be consciously controlled' (Rydell & McConnell, 2006, p. 995). In the current study, students recognise their instructors' accents and nationality and at the same time realise that expressing their views may cause them to be labelled as racist. Thus, investigating explicit attitudes solely might give a revised version of students' evaluations, but including implicit attitudes as a complement measure to explicit attitudes would help to provide a comprehensive picture of students' attitudes towards their EMI NNES instructors.

Previous empirical research has shown that there are differences between explicit and implicit attitudes (e.g., Gawronski & De Houwer 2014; Nosek, 2005; Nosek et al., 2007), particularly what people report through explicit and implicit means differs. In the explicit measure, participants would be concerned about how others judge them; they may easily modify their explicit answers to enhance their self-presentation, but they lack such introspective access to their implicit evaluative dispositions (Nosek, 2005). When explicit self-reports and implicit measures are used in conjunction to examine the same concept (e.g., flowers/insects and good/bad), they tend to show moderate correlation, suggesting that they are related but conceptually different at the same time (Gawronski, 2002; Greenwald et al., 1998; Nosek & Smyth, 2007). However, in the case of using explicit and implicit measures to investigate socially sensitive concepts (e.g., black/white, and pleasant/unpleasant) the correlation between them is generally low, which might be due to the conflicting results that are obtained from explicit and implicit measurements (e.g., Greenwald et al., 1998; Hofmann et al., 2005; Lane et al., 2007).

3.2.2 The importance of language attitudes in the educational context

The term 'language attitudes' in sociolinguistics is an umbrella term, which refers to a broad field of empirical studies, covering a wide range of specific attitudes, including attitudes toward learning languages, speakers of specific languages,

language preferences (Baker, 1992), language policy (Sallabank, 2013), and other areas (see Baker, 1992). The attitudes toward language and the stereotypes they generate are relevant to language practices at the micro-social level, that is, identity-making and social differentiation (Garrett et al., 2003), and the macro-social level, that is, institutional language support and language policy (Cargile et al., 1994). Language attitudes of students, including their attitude towards the instructor's language, can have an impact on their own language learning success (Dörnyei & Schmidt, 2001). Instructors' attitudes about their students' language can also have an impact on their academic success, and employers' language attitudes can have an influence on potential workers' career opportunities (Garrett et al., 2003).

A number of studies conducted globally have demonstrated that listeners infer characteristics about speakers based on their language, dialect, and paralinguistic aspects (Giles, 1998). Since such views can influence social interaction, 'language attitudes represent important communicative phenomena worth understanding' (Cargile et al., 2006, p. 443). The assessment of particular language and varieties of languages by including NES and NNES has long been a focus of applied linguists and sociolinguists, notably in ELT. Recently, language attitudes have also gained momentum in the EMI context. These attitudes may affect students' willingness to learn content subjects as required and becoming aware of students' attitudes can benefit both students and their instructors in becoming more aware of their needs. According to Friedrich (2000), this sort of information can help learners become more aware of the fact that they must cope with their own stereotypes, prejudices, and expectations, as well as the linguistic characteristics of their instructors. In terms of the instructors, improving their awareness of students' attitudes can provide valuable input for better planning of their teaching and can contribute to the efficacy of EMI courses. Additionally, as emphasised in the preceding chapter, a more thorough investigation of students' attitudes in various EMI contexts could help in gaining a better knowledge of students' broader social contexts and, therefore, a more complete understanding of students' needs and attitudes.

Similar to the disparity in its definition, language attitude has been measured using a variety of techniques. The following section will highlight the methods used in language attitude studies along with their strengths and weaknesses.

3.2.3 Attitude measurements in linguistics

Since the early studies in the 1960s, a variety of methods and techniques have been used in language attitude research. Such approaches and techniques are typically classified into three broad categories: the societal treatment approach, the direct approach, and the indirect approach (Galloway, 2017; Garrett, 2010; Meyerhoff et al., 2015). Within each approach, researchers can employ a variety of methods for assessing attitudes, depending on the study's objectives and nature. In light of the change in sociolinguistics in measuring attitude (see Section 3.2.3.3) in which a greater emphasis on implicit attitudes from psychological perspectives has emerged, it has been deemed appropriate to include the implicit method under this category and treat it as an indirect approach for the collection of language attitudes. In this method, the IAT, an instrument to measure implicit attitudes, is introduced. Although this method is categorised as an indirect approach, it differs from the indirect approach, which has been used historically by language attitude researchers (see Pantos, 2019). The indirect approach used in traditional language attitudes research refers to attitudes acquired via methods that do not overtly ask individuals how they feel about a specific language (see Section 3.2.3.3). For implicit approach refers to methods that have the ability to access implicit attitudes of the individuals about language or groups.

These measurements are discussed further in the following sections, which offer a critical review of each of these approaches in measuring language attitudes and outlines their strengths and weaknesses.

3.2.3.1 Societal treatment approach

The first type of attitudinal method is called societal treatment, and it includes a heterogeneous collection of language attitude approaches. Studies in this category use

various types of public sources to examine how different communities view languages or varieties, and they depend on ethnographic techniques (Garrett, 2007). Such acquired knowledge can provide information about the status of languages as well as provide a comprehensive picture of how languages are viewed in a given context (Galloway, 2017). Some studies evaluate policy documents, others use advertisements to learn more about attitudes of language and ideologies in community (e.g., Bishop et al., 2005). Because of its perceived lack of rigour and formality, this approach has often been overlooked when considering field research and has, therefore, often been considered marginal (Garrett et al., 2003); it is useful as a source of information through the analysis of written letters for a particular society, but in the current study, the attitudes are elicited from respondents (field research) rather than media or advertisement.

3.2.3.2 Direct approach

A direct approach to attitudinal investigation usually involves asking participants about their attitude, views, feelings, and knowledge of particular object. This is commonly referred to as explicit attitude and is achieved through interviews and questionnaires, which often is measured by using Likert scales. Most of the EMI studies used direct methods, that is, interviews and questionnaires (e.g., Inbar-Lourie & Donitsa-Schmidt, 2020; Karakas, 2017; Qiu & Fang, 2019). Both instruments have advantages and disadvantages. Some of the advantages of questionnaires are their practicality and scalability in collecting data, and for interview, its ability to collect in-depth information from respondents. Both are useful in collecting explicit attitudes of the participants under research. However, as direct methods rely on respondents to inform the researcher of their own views and attitudes, many of the problems that are frequently encountered are linked to certain well-known informant's patterns, such as social desirability bias and acquiescence bias (Garrett et al., 2003). This latter point is important considering that it may be a flaw in solely using explicit methods in the current research especially when it comes to measuring respondent's attitudes towards instructors from different nationalities with different varieties of English.

Another example is perceptual dialectology, a branch of folk linguistics, which is also categorised as the direct approach and has been developed by Preston (1989). The most popular technique from perceptual dialectology is probably the 'draw a map' task. For this task a map with a minimum number of landmarks is shown to participants. Then, they are asked to draw a circle around areas where people speak similarly. They are also asked to provide labels for these ways of speaking, and other qualifications or characteristics they may create. This form has the advantage of finding out about categorisations and seems more like an exploratory approach than, for example, the matched guise technique (MGT). It helps, for example, to collect adjectives that can be used in semantic differential measures in questionnaires or MGT experiments (Rosseel, 2017). Despite its superiority in many fields, this approach is less appealing to studies without regional components due to its heavy focus on geography (Rosseel, 2017).

Another example of the direct methods category is a technique named keyword task (e.g., Garrett et al., 2003, 2005). When using this technique, participants are invited to identify a number of associations in response to a language or variety of language that can be presented to the participants either in a form of an audio or a label. They need to respond in a quick and spontaneous way. As with the task of draw a map, the keyword task can be a helpful method for exploring attitudes and focusing on possible dimensions that structure them. Thus, it can help to provide adjectives for other methods such as MGT. One potential weakness of this method is the researcher's need for further interpretation of the keywords (Garrett et al., 2005) because participants usually do not add context or clarification for these keywords. There is, therefore, a caution when evaluating them, as participants may have different interpretations in mind that the researcher will never be able to recall (Garrett et al., 2005). For instance, if a variety is described as 'posh,' this could be viewed as a sign of prestige. However, a negative interpretation might be intended by the participants to the word 'posh' and it may have been meant as an indication of arrogance or snobbism (Garrett at el., 2005). It is difficult for the researcher to know what the participant intended without a further description.

The benefit of the direct method has been to collect valuable information about the attitudes, views, values, beliefs of various groups in society. However, the direct measures have the drawback of being predisposed to social desirability bias. Participants may want to respond to the survey and show themselves as more attractive than in real life. Therefore, there is a tendency to give socially acceptable responses (Baker, 1992). To overcome this point, the indirect approach has been developed, where the purpose of the study is made less obvious to the respondents. Thus, in the current study using the direct method is necessary to gain more understanding about participants' attitudes towards their NNES EMI instructors; however, respondents might have underlying prejudices and not be completely honest in their responses. Therefore, utilising the direct methods (questionnaire and interviews) in tandem with the indirect method would provide a more effective and comprehensive picture of respondents' attitudes.

3.2.3.3 Indirect approach

The first and traditional method of evaluating language attitudes is through the indirect approach, where researchers assess language attitudes by asking respondents to report them indirectly (Garrett, 2010). Indirect approaches, according to Garrett (2010), associates with the 'speaker evaluation paradigm,' which includes MGT and verbal guise technique (VGT) (e.g., Lambert, 1967). In these techniques, participants are required to listen and rate a number of personality traits based on audio samples that actually differ only in a language or a variety of language they represent. Such ratings are taken in order to show their attitudes to language. The distinction between the two techniques is that in the MGT the researcher depends on a single speaker to produce a spoken sample of a language or varieties of language, whilst the VGT relies on multiple speakers to do so. The reason for using a single speaker to produce varieties of language is to maintain constant voice quality because different voice qualities can have impact on participants' ratings of a given speech and accordingly considered as potentially confounding. Nonetheless, locating a speaker who is fully fluent in all the languages or varieties of languages included in a study as a sample can be challenging and 'it is not always possible to find a single person who can

completely produce the varieties required for the study' (Garrett et al., 2003, p. 53). This results in an artificial and unauthentic speaker of one or more of the languages or varieties included in a study. To address this issue, VGT has been developed, which overcomes the problem in MGT by using different speakers (Alford & Strother, 1990). Therefore, the preference between MGT and VGT lies in balancing between control and authenticity. The VGT approach is used in EMI studies, such as Hendriks et al. (2018) and Hendriks et al. (2021), to measure students' attitudes towards the strength of accents of EMI instructors in Netherland, and Mu (2020) used VGT to measure the attitudes towards local Chinese accented instructors in EMI context. These studies will be discussed further (see Section 3.4.1). In the current study, a modified version of VGT[7] was used to measure speech constructs, with speakers from various backgrounds being recorded and students rating them on these constructs (more details in Chapter Four).

While MGT and VGT have been successful in studying language attitudes and proven to be useful, they do have a number of issues. One example of such an issue is the speech samples that are used in an MGT or VGT experiment. The topic of the speech samples needs to be as neutral as possible, and variations between the different speakers must be limited. A solution is to have the speaker(s) under different guises reading the same text, which provides full control over the content of the speech samples. However, if the same text is used as an audible speech and heard over and over with language, a variety of languages, accent or a single variant as the only distinction, the respondents would probably deduce that the researcher is interested in the language attitude of the person concerned. Another shortcoming is that if a study is measuring a number of varieties of English and using multiple speakers to represent each variety, respondents may become exhausted. Indirect methods were also criticised because of a lack of qualitative insights and for not identifying the different factors which have an influence on attitudes (Galloway, 2011, 2013). Despite the

[7]I used the term 'modified VGT' as it includes more than one speaker similar to the traditional VGT. However, it is a modified version as the speakers in the recordings are reading different sentences, unlike VGT where speakers read the same sentences.

mentioned drawbacks of these methods, MGT and VGT have been considered as the most dominant approaches in language attitude research.

While a number of smaller modifications and improvements have been made to the main methods discussed above, more fundamental methodological developments have only recently been observed in the field of language attitude research. New approaches are being developed by leveraging developments in the field of social psychology's research on attitudes, particularly implicit attitude, and applying its tools, like in the instance of IAT, the instrument utilised in this study.

Implicit method and IAT

The field of sociolinguistics appears to have undergone a recent change, and researchers are now paying more attention to the distinction between explicit and implicit attitudes. There is a growing awareness that both types of attitudes in sociolinguistics are important, that is, stereotypes, associations, and other social information, which can have significant implications for linguistic research. Therefore, an alternative to the traditional measurements of language attitudes, mentioned above, has been employed. Many linguists have begun to explore implicit attitude measures established in social psychology, focussing mainly on the IAT. Most sociolinguistic investigations include the use of elements of the VGT in the IAT and employ audio stimuli rather than the traditional IAT stimuli of words or pictures (e.g., Campbell-Kibler, 2012; Lehnert et al., 2018; Pantos & Perkins, 2013; Rosseel et al., 2018), and others have employed only words (e.g., Lee, 2015; McKenzie & Carrie, 2018; Redinger, 2010). The IAT's dominance as a new linguistic measure of attitude represents its popularity in the field of social psychological research, which is due to several advantages that the IAT offers. Even though the current study did not use audio as stimuli, it employed IAT with words to measure respondents' implicit attitude towards NNES EMI instructors from different L1 backgrounds. Since the respondents were familiar with linguistic features of each instructor, using audio stimuli might not be of great value for measuring attitude.

Unlike the traditional methods mentioned previously (e.g., MGT or VGT), IAT, which is a reaction time test based on a categorisation task that measures the association between two binary concepts (e.g., flowers/insects and good/bad), can help to overcome the limitations of the direct methods and measure attitudes of people that are not shown in a self-report questionnaire (Rudman, 2004), in which social desirability bias, an error induced by a desire to avoid social criticism or embarrassment, can act as a hinderance to respondents responding to a questionnaire accurately and honestly (Garrett, 2010). Specifically, the individual has the ability to report attitudes different from what they truly believe as s/he has control over what they report. For example, if the individuals are conscious about their attitudes' evaluations, they may revise them, particularly if these attitudes are unfavourable to them (Garrett, 2010). In other words, by eliminating the need for respondents to register their attitudes directly, the IAT has the ability to reveal whether respondents associate particular objects, such as EMI instructors from different nationalities, with positive attributes or negative ones. This is helpful because respondents with negative attitudes towards a particular group of instructors may not wish to admit this to the researcher or they may give answers to obtain the researcher's approval (Garrett, 2010), particularly if the researcher belongs to one of the instructors' groups under investigation. Consequently, in both cases, responses may not reflect the actual evaluations to the attitudinal objects. Students in the current study are aware of their instructors' accents and ethnic backgrounds but also understand that disclosing their opinions in the interviews or questionnaire would result in them being labelled as racist. Thus, this psychological test is used as an alternative and complement to traditional direct measurements of language attitudes, mentioned above.

The IAT was introduced by Greenwald et al. (1998) as an instrument to measure implicit attitudes of people because perceivers frequently create two separate evaluations of social objects: unconscious (automatic) and conscious (controlled) evaluations (Greenwald & Banaji, 1995). The IAT can show different results from explicit measures and indicate disassociation between the two measures. It also identifies when the person taking the test is unaware of his or her implicit attitudes

toward the object, or s/he is aware of those attitudes, but refutes them because they are not socially acceptable or do not conform with his/her personal values (Baron & Banaji, 2006; Gawronski & De Houwer, 2014; Nosek et al., 2007). This is particularly prominent in expatriate stereotypes because people tend to be reluctant to disclose or may not realise their attitudes towards minorities (Greenwald et al., 1998).

IAT is a popular test in social psychology because it has shown excellent psychometric qualities, good internal consistency, and statistical power (Greenwald & Nosek, 2001; Lane et al., 2007; Nosek et al., 2007). Furthermore, the test is more flexible in terms of the stimuli it uses (written words, images, audio clips, etc.), the kind of associations that can be measured (not just good/bad associations), and the kind of performance that can be performed either online or in a lab. It has also undergone rigorous testing to determine its 'fakeability,' and has been proven to be more resistant to deception than self-report questionnaires (Nosek et al., 2007).

However, the IAT is not without criticism; it has most commonly been criticised for its low test-retest reliability, making it unreliable for use in a real-world setting (Bar-Anan & Nosek, 2014; Gawronski et al., 2017). An example is Bar-Anan and Nosek (2014), who used a large sample and found a race IAT test-retest reliability of only 0.4. Nevertheless, some researchers have argued that attitudes change constantly and are affected by context (Fazio, 2007). In this regard, IAT's inability to maintain test-retest reliability may be indicative of the construct's overall instability. Therefore, students' attitudes toward EMI NNES instructors might also change over a period of time, as evidenced by Moussu's (2006) study that showed how students' attitudes shifted to be favourable toward their NNES instructors over the course of a semester. The other drawback concerning the IAT is because of its binary design, which is considered as a limitation: if the aim of a particular study is to measure associations of more than two attitudinal objects, like the current study, then the researcher has to overcome such a potential limitation by conducting multiple IATs ; however, the use of more than one IAT is prevalent (Green et al., 2007; Na, 2016; Nosek et al., 2002). (More details on the IAT's design are provided in Chapter Four).

There are clearly a variety of methods available for researching language attitudes explicitly and implicitly, and the researchers have the options to use them either alone or together based on the purpose of the research. The selection of this research design was based on the suggestion that 'what works to answer the research questions is the most useful approach to the investigation' (Cohen et al., 2011, p. 23). Therefore, in order to reveal implicit and explicit attitudes, direct (questionnaire and interviews) and indirect approaches (IAT) were deemed to be the most useful approaches for achieving the aim of the current study.

The IAT in different fields

Although widely used in social psychology, IAT was recently adopted in other fields, including sociolinguistics and education. Most of these studies focus on attitudes toward specific groups. As part of a comprehensive study of language attitudes in Luxembourg, Redinger (2010) piloted a very small-scale IAT consisted of five participants and used words as stimuli (Luxembourgish and French). The researcher found that Luxembourgish was associated with more positive attributes than French. A study by Babel (2010) examining New Zealanders' linguistic accommodation to Australian English found that attitudes toward Australian as measured by IAT scores were a significant predictor of phonetic convergence. In Pantos and Perkins (2013) study, they used audio-IAT to measure implicit attitude of linguistics students and asked them to categorise American and Korean-accented English speech into "bad" and "good" categories, and they found a bias towards favouring the American accent, contrary to students' responses on the explicit self-report questionnaire. A similar finding was found by Rosseel et al. (2018), who used audio-IAT and reported that standard Dutch varieties were preferred over regional varieties. By also employing IAT with words as stimuli (Welsh language and English language), Lee (2015) found that adolescents from Welsh-medium schools have more of a preference for Welsh variety than those in English medium school in Cardiff city. McKenzie and Carrie (2018) in the UK examined the direction of language attitude change. They investigated the attitude of English people towards Northern and Southern English in England. They used IAT with words as stimuli (from cities from the north and from

the south) and found that the change in language attitude is evidenced and led by young females who revealed more tolerance towards Northern English. In the case of Luxembourg, audio-IAT with Luxembourgish and French speech was used. The findings revealed that Luxembourgers preferred their native language, but explicit data indicated that they preferred French, demonstrating the value of integrating explicit and implicit measurements (Lehnert et al., 2018).

In the educational arena, IAT has also been adopted by researchers in their studies. Todd and Pojanapunya (2009, 2020) conducted an IAT in which Thai undergraduate students were asked to align NES instructor and NNES instructor (Thai instructor) with 'positive' and 'negative' teaching traits. They used words as stimuli (typical names of instructors from those backgrounds). The research found that more explicit and implicit attitude was revealed towards NES in both studies. For measuring the implicit beliefs of teachers towards English learners in mainstream classrooms, Harrison and Lakin (2018) employed IAT with words as stimuli (English learner students and mainstream students) and found negative implicit responses towards those learners. Sun et al. (2020) conducted a study on the communicative language teaching method and a traditional language teaching method. Descriptors of each language method practices have been used as stimuli, and they found a difference in teachers' attitudes, as measured by IAT *D* score, towards the teaching methods they used in the linguistic classes. Other studies have also used IAT, such as in language evaluation (Loudermilk, 2015), language social meaning, and indexicality (Campbell-Kibler, 2012; Llamas et al., 2016).

It is apparent that these studies have recognised the importance of implicit measures in revealing more about attitudes, stereotypes, prejudice, and other social meaning, which might not be revealed by utilising solely explicit measures. The current study furthers this line of discovery in adopting this technique to add to the body of IAT literature with an IAT focused on students' attitudes towards NNES EMI instructors and their accents. This approach is very useful in explaining attitudes and is especially useful in the context of multiple NNES instructors with different L1 backgrounds where the dominance of expatriates prevails. It is necessary to investigate students'

implicit attitudes towards often familiar varieties of English, and students might be unaware of their implicit attitudes towards speakers of these varieties. This approach is effective in obtaining comprehensive and relevant results as it offers a way to access attitudes in order to understand the students in a more holistic way. Therefore, combining IAT with explicit measures of attitude provides a more complete picture of the respondents' attitudes toward the attitudinal object than do explicit measures alone. Thus, the present research measures both implicit and explicit attitudes of the respondents through the use of both IAT and self-reporting methodologies.

The following sections will examine the effect of the attitudes we have measured on the three speech constructs of intelligibility, perceived comprehensibility, and perceived foreign accentedness. Such investigation is important in a context where minorities are abundant both on campus and in the broader community.

3.3 The role of attitude in speech perception's constructs (intelligibility, perceived comprehensibility, perceived foreign accentedness) (ICA)

3.3.1 Definitions of ICA

There are several constructs used to evaluate non-native utterances, and the definitions and classifications of these constructs vary among studies. Three constructs identified by Munro and Derwing and colleagues are intelligibility, perceived comprehensibility, and perceived foreign accentedness. These are chosen as being most appropriate for this study because they are specific and clear (Derwing et al., 2008; Munro & Derwing, 1995a; Munro et al., 2006). Intelligibility, according to Derwing et al. (2008), is a way to ascertain whether the listener recognised the words the speaker (normally an NNES) uttered (through orthographic transcription). Munro and Derwing's definition (1995b) refer to intelligibility as 'the extent to which an utterance is actually understood' (p. 291). As perfectly put by Derwing and Munro (2009), '[...] comprehensibility is about the listener's effort, and intelligibility is the end result: how much the listener actually understands' (p. 480).

Comprehensibility, on the other hand, refers to 'the ease or difficulty with which a listener understands L2 accented speech' (Derwing et al., 2008, p. 360). Thus, in order to evaluate comprehensibility, the main goal is to measure the level of difficulty or ease for listeners to comprehend an NNES' speech on a scale. As Derwing and Munro (2009) state '[t]his dimension is a judgment of difficulty and not a measure of how much actually gets understood' (p. 478). Comprehensibility is, therefore, generally determined by the amount of time or effort the listener must expend to comprehend the speaker's speech (Derwing & Munro, 2009). Although the two constructs of intelligibility and comprehensibility are intertwined, they are different dimensions.

The third construct, accentedness, 'refers to how strong the talker's foreign accent is perceived to be' (also using a scale) (Munro & Derwing, 1995b, p. 291). Accentedness is also understood as the way of speaking that shows where the speaker is from, and how the speaker's pronunciation of words connects that speaker with similar people with whom he/she shares a native language and sociolinguistic background (Crystal, 2003). A foreign accent can have negative consequences for the L2 speaker because (a) if it is indicative of a high degree of L1 transfer, that can be related to a lack of intelligibility (Flege, 1988), and (b) the negative ratings of accent can be produced by the listeners because of prejudice (Lippi-Green, 2012; Rubin, 1992). Prejudice in turn can be due to ignorance and lack of exposure, or to stereotyping.

The three speech constructs of L2 speech have been the subjects of research in the L2 paradigm, particularly the connection between intelligibility, accentedness, and/or comprehensibility (Derwing & Munro, 1997, 2009; Munro & Derwing, 1995a, 1995b, 1999), and also the factors that affect intelligibility, comprehensibility and accentedness of L2 speech which have strong effects on listeners' ratings, that is, speakers' factors and listeners' factors. Speakers' factors included features of L2 speech that influence listener ratings to these speech constructs (Anderson-Hsieh et al., 1992), or listener factors that influence the ratings of these constructs of L2 speech (Lindemann & Subtirelu, 2013). The listener and speaker-related factors will be discussed in more depth in a separate section.

Regarding the research on the relationship between intelligibility, accentedness, and comprehensibility, Derwing and Munro have developed a framework based on the three constructs which they have argued to be 'related but partially independent dimensions' (Munro & Derwing, 1995a, p. 90). They are typically related, albeit the correlation between accentedness and intelligibility is not strong. In particular, it has been shown that even severely accented speech can be quite intelligible (Derwing & Munro, 1997, p. 11). In their empirical studies, Derwing and Munro (2009) found that an accented speaker is often perceived to be difficult to understand. However, a speaker who is highly accented can be easily understood. An example comes from Munro and Derwing (1995b) study; they recorded 10 Mandarin speakers and two NES describing a comic strip. NES listeners were recruited and instructed to listen to several sentences in order to transcribe them to measure intelligibility and rate them to assess comprehensibility and foreign accentedness. Despite the results indicating that the non-native utterances were highly intelligible and easily understood, listeners often judged them as moderately or strongly accented. At the word and sentence level, Hayes-Harb and Watzinger-Tharp's (2012) investigation supported the prior findings. Their results showed that foreign strong accents do not impair intelligibility. Thus, accent ratings are not reliable as a predictor of intelligibility (Munro & Derwing, 1999).

In contrast, perceived comprehensibility was more accurate at predicting intelligibility than accent ratings. Perceived comprehensibility refers to subjective assessments of how simple or difficult it is to comprehend speech, whereas intelligibility assesses actual understanding (Munro & Derwing, 1995a). The former measures the difficulty of processing speech, since speech that needs a lot of effort to comprehend would earn lower scores even if it is eventually understood. Moreover, since it used a subjective measure, there is a possibility that perceived comprehensibility might attract more attitude, which would make it different from intelligibility. Despite the close relationship between intelligibility and comprehensibility, then, they are not in perfect agreement, since utterances that are fully understood may not be judged as fully comprehensible (e.g., Munro & Derwing, 1995a).

In terms of comprehensibility with foreign accent, raters rate comprehensibility differently from the foreign accent, with the former obtaining more favourable evaluations and the latter receiving less favourable evaluations. In their seminal studies, Munro and Derwing (1995a, 1995b, 1999) found a significant correlation between intelligibility and perceived comprehensibility, between perceived comprehensibility and accent, but not between intelligibility and foreign accent. Despite the apparent relationship between accentedness, comprehensibility, and intelligibility, they found only a moderate correlation between the three constructs and concluded that the three constructs are partially independent.

3.3.2 Measuring intelligibility, comprehensibility, and perceived accentedness

Different approaches have been used to operationalise the three constructs of ICA. Despite the use of the same definitions in different studies, the methods adopted in these studies differ, making it difficult to compare results and draw general conclusions. Differences pertain to the type of sample and method used for collecting data on ICA. However, INT was consistently operationalised objectively whereas PC and PFA are always perceptual measures obtained by the Likert scale. Previous studies followed Munro and Dewring's (1995a, 1995b, 1999) methods, such as Algethami et al. (2011), Ballard and Winke (2017), Bradlow and Bent (2008), and Sheppard et al. (2017). The following sections discuss the methods of investigating each of the three constructs.

Perceived comprehensibility

The most widely used tool for PC is the perceptual measures obtained by the Likert scale. Listeners are asked to evaluate speech samples on a rating scale. The rating scale is used to measure the difficulty of a given speech and ranges usually from 1-9 (1 = easy to understand, 9 = difficult to understand) (Munro & Derwing, 1995a, 1995b, 1999). Nevertheless, this method is dependent on the subjective perception of listeners (Trisitichoke et al., 2018), and it, therefore, may not precisely reflect

listeners' honest perceptions of difficulty since biases can influence results. Though this measurement has a weakness, it is still correlated with other objective measures that assess the cognitive load of listeners. As an example, Munro and Derwing (1995b) examined whether Likert scale scores correlated with reaction times to stimuli (i.e., the period of time it takes for NES listeners to respond to NNES speech utterance after being presented). Researchers found that the reaction time was significantly longer for speech with low comprehensibility ratings compared to those with high comprehensibility scores.

Perceived foreign accentedness

The measurement of PFA follows the same procedure as that of PC where participants listen to a recording of a given utterance and rate how heavily accented it seems. The Likert scale range from 1-9 with 1 = no accent and 9 = very strong foreign accent. Similar to the PC scale, the PFA is a subjective measure and biases can influence results. One of the weaknesses of using the Likert scale for measuring foreign accentedness is attributed to the lack of a clear and consistent definition of accent. Munro (2017) describes accentedness as 'the degree of differences between the pronunciation of an utterance and a listener's internalised representation of it' (p. 413). There is a wide variety of English pronunciation, and as a result, setting a standard for accents would be challenging since all speakers might perceive the accent differently.

Intelligibility

INT has traditionally been tested in two ways: subjectively and objectively. The first form is the subjective test or perceptual, which measure how much a listener thinks that he/she understands a speaker of a given speech on a Likert Scale rating (e.g., Anderson-Hsieh et al., 1992; Ballard & Winke, 2017; Fayer & Krasinski, 1987; Tang & van Heuven, 2009). According to the discussion above, the subjective INT seems to be equivalent to the PC. This method is less valid because it depends more on the

listeners' subjective evaluations rather than asking them to prove they are able to match what they hear with what was said (Thomson, 2018).

The second type is the objective test or functional test, which typically measure how much a listener actually understands an utterance, such as a transcription test (Kang et al., 2018; Kennedy & Trofimovich, 2008; Munro & Derwing, 1995a, 1995b, 1999; Munro et al., 2006), cloze test (Kang et al., 2018; Smith, 1992), or test based on True/False statement (Kang et al., 2018; Kennedy & Trofimovich, 2008; Munro & Derwing, 1995b). Samples used to test speech constructs are obtained through samples of spontaneous speech and reading texts aloud, spoken True/False statements. For example, Munro and Derwing (1995a, 1995b, 1999) and Munro et al. (2006) preferred to use extemporaneous speech samples because they reflect real-life contexts that the listeners encounter. However, by using this type of speech, participants may be able to infer the words from the context of the sentence (Thomson, 2018).

Other studies have investigated INT data gathered through samples of reading of words in isolation, sentences, or texts aloud (e.g., Bent & Bradlow, 2003; Derwing & Munro, 1997; Gass & Varonis, 1984). A weakness of reading text, particularly if the purpose is to test L2 speakers, is that reading speech sample enables speakers to monitor how they read and thus avoid deviations from standard speech that might not represent the intended INT (Algethami et al., 2011). To avoid monitoring strategies by speakers and to control the free speech samples, Algethami et al. (2011) suggested using the technique of paraphrasing sentences in order to focus on formulating the sentences and distract the speakers from monitoring their production.

Kang et al. (2018) compared different INT measurements to identify the best predictor of this variable. In particular, they explored how five different intelligibility measurement methods correlated with the scores for TOEFL listening tasks, in which participants were provided audio recordings (i.e., the TOEFL listening material were recordings of speaking participants). The measurements that have been included in the study were transcriptions of filtered sentences, True/False statements,

transcription of nonsense sentences, transcription of semantically meaningful sentences, and perceptual test with a Likert scale. The findings showed that the transcription of nonsense sentences, such as 'A clean soul tapes the keys,' has the highest reliability to predicting the TOFEL listening scores followed by the True/False statements task. Although transcription tasks are a good measure of intelligibility, it is important to note that they do not necessarily mean a perfect measurement. It has been shown in Zielinski (2004, as cited in Munro et al., 2006) that transcription scores did not always correlate with understanding the entire message.

In an interdisciplinary study conducted under time constraints (such as the present study), it is necessary to have a more accessible and practical approach, and, therefore, I chose the verification task of True/False statements adapted from Munro & Derwing (1995b). They developed a set of single clause statements from common knowledge 'real-life contexts' that can be judged as true, such as 'some people have sandwiches for lunch,' or false, such as 'April is the first month of the year.' The researchers assumed that listeners would give incorrect answers if the sample was difficult or impossible to understand. This method does not identify specific utterances that are unintelligible but rather indicates a speaker's overall understanding (Thomson, 2018). This method is selected because it is used by many previous reliable studies (e.g., Kennedy & Trofimovich, 2008; Munro & Derwing, 1995b; Munro et al., 2012).

3.3.3 Factors affecting ICA

This section reviews what kind of factors have strong effects on listeners' ratings of the three speech constructs: INT, PC, and PFA. The factors can generally be divided into two categories: (a) speaker factors or linguistic features, such as pronunciation and speech rate, and (b) listener factors or non-linguistic features, such as L1 differences, attitude, and familiarity. The speaker-related factors have also been categorised in accordance with their shared aspects, including segmentals, which are known as minimal units of sound (vowels/consonants), and suprasegmentals, a term that refers to 'a vocal effect which extends over more than one sound segment in an

utterance, such as a pitch, stress or juncture pattern' (Crystal, 2003, p. 446). Examples of segmental errors are deviations from the target language, which can include vowel/consonant deletions, substitutions, or additions. The suprasegmental errors include prosody errors (rate, pausing, stress, pitch, and intonation), grammar, lexis, and discourse. The other category of factors is the listener-related factors, which are generally associated with L1 background, familiarity, and attitudes towards the speaker. An overview of the listener-related factors will be discussed with a particular focus on attitudes towards speakers or groups since it is one of the major variables in the current research. The following figure illustrates the relationships between the three speech constructs and speaker and listener factors.

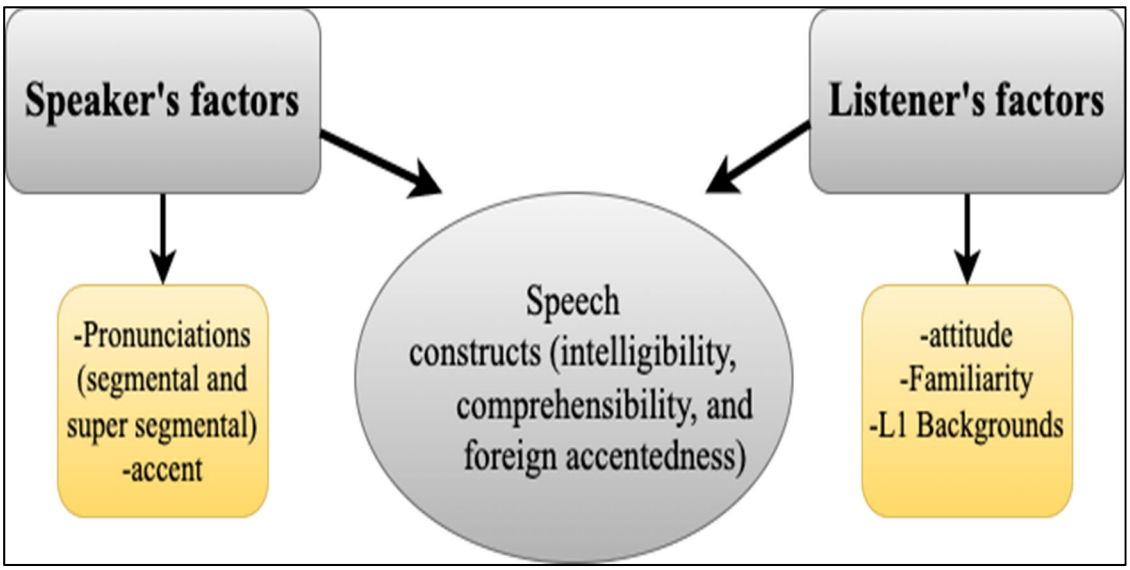

Figure 3.2 Diagram illustrating the relationship between the three speech constructs and speaker and listener factors.

3.3.3.1 Listeners' factors

One aim of EMI is the transference of knowledge, making comprehension of considerable importance. Studies of the ICA of NNES speakers from different L1 backgrounds have indicated that a NNES speaker is harder to understand for both NES and NNES listeners (Munro & Derwing, 1995b; Munro et al., 2006). Thus, to increase the level of understanding, research on L2 has investigated the different listener's

factors that have impacts on facilitating understanding, as is the case in the current study between NNES students and NNES instructors. It is found that ICA are affected by several potential listener factors. Sharing an L1 backgrounds, familiarity, and attitude seem to be the most studied factors and the following discussions will focus on them.

Familiarity

One of the listener-related factors that have been discussed extensively is familiarity with accented speech. In their seminal work, Gass and Varonis (1984) highlight variables of familiarity, including familiarity with the topic, familiarity with foreign speech, familiarity with a specific accent, and familiarity with the speaker, all of which are considered to enhance intelligibility and comprehensibility. In that study, 140 NES listened to the recording of two Japanese speakers and two Arabic speakers reading sentences. Though these authors found familiarity with the topic helped to increase understanding of the speech produced by NNES speakers, familiarity with the accent played a key role in listening to NNES speech. Familiarity with an accent, which is defined by Derwing and Munro (1997) as the amount of time spent with an accent, helped listeners comprehend it better. Similarly, Winke et al. (2013) found that familiarity with L1 made Spanish and Chinese listeners lenient in their ratings of speakers with shared L1.

Matsuura et al. (1999) conducted a study to measure familiarity on intelligibility and comprehensibility and reported that familiarity with an accent can have positive influences on only comprehensibility. In their study, they recruited three Americans and three Irish participants as speakers. One hundred and six Japanese university students participated as listeners, 36 of them studying English with an Irish teacher. With transcription tasks and Likert scales, intelligibility and comprehensibility were measured. The results indicated that L2 listener's judgements of intelligibility and comprehensibility often did not correlate strongly, and listeners who were familiar with Irish English judged Irish speech as more comprehensible than those who were unfamiliar with Irish speech. However, the listeners with less familiarity found the

Irish speech more intelligible than the listeners with high familiarity. In this study, the English proficiency levels of listening participants were not taken into account when comparing the scores of listeners who were familiar with Irish speech with listeners who were not. In this case, it is possible that listeners who are unfamiliar with Irish speech may have been more proficient in English than the listeners who are familiar with Irish speech. Likewise, in Matsuura (2007) two accents were compared, general American English and Hong Kong English, and it was concluded that the best predictor of intelligibility was the familiarity with diverse accents, that is, being familiar with an accent makes it more intelligible. However, familiarity does not always result in positive evaluations, for example, Nejiari et al. (2012) in their study recruited NES listeners to evaluate NNES speakers with Dutch accented English; they found that listeners who were familiar with speakers' accents evaluated them less positively than listeners who were unfamiliar with the accent.

Shared L1 background

It is generally believed that sharing a first language increases comprehensibility and intelligibility when the interaction takes place in a language that is not the first language. The reason for this would be 'L2 accents are primarily characterized by transfer from the L1, and that listeners who share a speaker's L1 will have an intimate familiarity with the phonological patterns of that speaker's L2 accent' (Harding, 2011, p. 165). Earlier studies examining the influence of shared L1 have had mixed results, with some language groups showing an advantage, some showing little overall effect, and others even showing a disadvantage (e.g., Algethami et al., 2011; Bent & Bradlow, 2003; Harding, 2011; Major et al., 2002; Munro et al., 2006; Stibbard & Lee, 2006).

The majority of researchers have studied how L1 background contributes to the comprehending of the L2 speech, particularly with a focus on the theory of the interlanguage speech intelligibility benefit (ISIB), as defined by Bent and Bradlow (2003). It is interesting to note that this benefit extends even across language backgrounds (i.e., the so-called 'mis-matched interlanguage intelligibility benefit'),

which refers to the fact that non-native listeners from different linguistic backgrounds can also accurately transcribe non-native speech similar to the transcription of the native listeners (e.g., Bent & Bradlow, 2003; Bradlow & Bent, 2008; Hayes-Harb et al., 2008; Xie & Fowler, 2013). Bent and Bradlow (2003) included low proficiency speakers as well as high proficiency speakers in their study. The listeners were NES and NNES from China and Korea. The listeners were able to accurately transcribe speech from speakers. The results showed that speech of highly proficient NNES speakers received high intelligibility scores regardless of whether speakers and listeners share the same L1. Bent and Bradlow (2003) also found that Korean listeners rated low proficiency Korean speakers' speech as high as that of NES. Thus, the speaker's and listener's phonological proficiency may influence the degree of benefit. Studies (e.g., Bent & Bradlow, 2003; Bradlow & Bent, 2008; Hayes-Harb et al., 2008) have found that listeners and speakers of lower proficiency are more likely to experience an increased advantage from shared L1 (interlanguage intelligibility) as compared with their higher proficiency counterparts. Ludwig and Mora (2017) also found that when L1 is shared, comprehensibility increases, especially for students with low English proficiency. In their study, they recorded two Catalan, two German and two English speakers and presented the recorded speech to 20 listeners from the same background (Catalan and German), 10 with high English proficiency and the other 10 with low English proficiency. The researchers measured comprehensibility by using reaction time and the 7-point Likert scale. The results showed that the listeners clearly experienced the shared L1 effect in their comprehensibility ratings and reaction time. In other words, Catalan listeners found it easier to comprehend the speech produced by Catalan speakers than German speakers; likewise, the German listeners found the speech produced by German speakers to be more comprehensible than the speech by Catalan speakers. However, although there is an impact of shared L1, it differed when proficiency in English was taken into account. Low- and high-level German listeners showed significant shared L1 effects; however, only low-proficient Catalan listeners showed such effects.

Other research has yielded inconclusive or negative outcomes (e.g., Algethami et al., 2011; Hendriks et al., 2018; Stibbard & Lee, 2006). For example, Algethami et al., (2011) examined the benefit of the shared L1 of Arabic accented English of Saudi listeners (living in Australia) over native English listeners when both listened to speech produced by Saudi speakers. Findings indicated that Saudi listeners rated Saudi speakers slightly better than Australian listeners. However, this was not statistically significant and did not show any benefit of sharing L1 between Saudi listeners and speakers. A recent study by Hendriks et al. (2018) has also contradicted this theory. Using the VGT, Hendriks et al. aimed to investigate how Dutch and German students evaluate Dutch and German instructors with a moderate and slight foreign accent. In their study, they found that German listeners evaluated speakers with a moderate Dutch accent in English easier to understand than those with a moderate German accent.

On the other hand, research (e.g., Munro et al., 2006) has revealed no consistent effect of intelligibility benefit when speakers and listeners have the same native language background. In their study, Munro et al. recruited listeners from different L1 backgrounds, such as Cantonese, Japanese, Mandarin, and native English, and all were exposed to the speech of English speakers from similar and different L1 backgrounds (i.e., Cantonese, Japanese, Polish, Spanish). While all groups of speakers were equally understandable to native English listeners, other listeners had differences. Cantonese listeners, for instance, judged the speech of Cantonese speakers to be more understandable than a speech from, Polish, Japanese, and Spanish speakers. Similarly, Japanese listeners considered the speech of their own language background as easier to comprehend than that of Cantonese, but not for the other speaker groups. It was noted that the effect sizes were relatively small, and as a result, Munro et al. came to the conclusion that the listener's L1 was less important than the speech's linguistic features. Therefore, while some research suggests that having a shared L1 background is beneficial, this effect may be contingent on proficiency skills and other additional factors.

The above-cited research shows that speakers sharing an L1 may have two effects. First, speakers may be evaluated positively and that might be due to the same in-group effect, which can be explained by social identity theory (SIT) (Tajfel, 2010), in which the sense of in-group membership between listeners and speakers can help to generate positive evaluations for the speakers. In contrast, speakers may receive negative evaluations by their compatriots, due to the vicarious shame listeners have when they hear a clearly identifiable foreign accent in their English (Hendriks et al., 2018; Schmader & Lickel, 2006). This is evidenced by Jensen et al. (2013) who found that Danish students were less satisfied with Danish instructors' English, and similarly Hendriks et al. (2018), where the Dutch listeners were quite critical about the pronunciation of Dutch speakers.

Research into intelligibility and comprehensibility of accented speech has traditionally concentrated on simple tasks between recruited listeners and speakers, in which the significance of a foreign accent is usually found to be relatively small. However, the effect of processing difficulties associated with accents can be even greater in the real context of university lectures with real communication between subjects (e.g., undergraduate students (listeners) with their instructors (speakers)), in which English is used as a medium of instruction, which is becoming increasingly common at the Saudi universities. The Saudi context lacks such assessment of the instructors in terms of the three speech constructs and the impacts of listener's factors (including implicit and explicit attitude). There is only one study to date that asks Saudi raters to evaluate Saudi speakers in terms of ICA (e.g., Algethami et al., 2011). The authors examined the intelligibility of Arabic accented English of Saudi listeners. Although this study tested Saudi listeners, the study was conducted in Australia, which can produce different results. The listeners may differ from those in the Saudi setting in terms of English competence and exposure to English, and no consideration was given to these factors that could affect listeners' evaluations. There is thus no actual research in the Saudi context on the three constructs. There is a lack of knowledge about how Saudi listeners in the Saudi context rate non-native speech from speakers with comparable and differing L1s.

Attitude and its interplay with ICA

In addition to the above listeners' factors, social attitudes towards NNES are also found as factors that impact the listeners' evaluations of the ICA scores. Several studies around the world have shown that listeners can infer traits about speakers from their language (Giles, 1998) based on the cues the speaker uses, and this then creates judgements about that speaker (McNamara, 2001) that eventually might influence how speakers are perceived (positively or negatively) (Al-Kahtany, 1995; Ladegaard, 1998; Lindemann & Subtirelu, 2013). The findings of several studies have shown that listeners' language and social attitudes, biases, stereotypes, ethnic and cultural beliefs influence perceptions of language, understanding, communication, and social interactions (Kang & Rubin, 2009; Kutlu et al., 2020; Lippi-Green, 1997; Rubin, 1992). In his study, Kim (2008) rejected the hypothesis that L2 students' negative attitudes toward foreign accents of NNES instructors are the consequence of a lack of understanding and interpreting skills. Instead, he found that their perceived comprehensibility was influenced by their perceptions of the foreign accent of the NNES instructors. Students' negative attitudes may stem from their unjustified beliefs that the only perfect pronunciation is the native accent.

Social attitudes can be associated with a particular speech style even when it is not obvious in the given speech sample (e.g., Kang & Rubin, 2009; Rubin, 1992). Listeners naturally assign speakers with their supposed social group membership and then rate them according to the social group's stereotypes, with the accent often being the first component of speech that listeners notice (Yan & Ginther, 2017). Intergroup stereotypes and attitudes might be influenced by negative impressions of a speaker's negative perceptions (Harwood & Joyce, 2012). It is also common practice to make assumptions about the nationality or ethnicity of the speaker, which may serve to reinforce unfavourable stereotypes about that group or that nation (Frumkin, 2007; Hosoda & Stone-Romero, 2010). For example, non-native speakers are sometimes referred to as immigrants, a group of people that, in most countries, the native people usually dislike (Kessler & Freeman, 2005). As a result, while speaking with a non-native accent, there is a significant risk of having negative perceptions (i.e., being

stigmatised) by perceivers due to the biases pertaining to non-native accents in general (Roessel et al., 2017) and the group members that these accents typically indicate. Furthermore, this perception can have consequences on the understanding and actual communication between the interlocutors, as evidenced from the American context towards an NNES group (Asians) that are often stigmatised and discriminated against in the U.S. Lindemann (2002) studied how listeners' attitudes toward non-native accents affect their perceptions and actual comprehension of L2 speech. The researcher recruited Korean and NES to complete a map task. The results indicated that NES with more negative attitudes toward Koreans rated their communication as unsuccessful, despite successfully completing the map task.

Attitude in an educational setting is often associated with specific accents in English (usually NNES), and perceptions of foreign accents can influence and shape the attitudes, and students' confidence in the instructor's competence to teach (Hendriks et al., 2018; Kelch & Santana-Williamson, 2002). This can have a substantial impact on the perceptions of the speakers in terms of intelligibility and comprehensibility (Kutlu et al., 2020; Rubin, 1992). The latter point is supported by data that shows how listener comprehension of speech is influenced by social attitudes. In studies by Rubin (1992) and Rubin and Smith (1990), their findings suggest an effect of perceived speaker ethnicity on listeners' comprehension in a lecture. Listeners' ratings differed for guises with similar accents but different races. In other words, listeners demonstrated less understanding when presented with an Asian guise than when presented with a Caucasian guise for the same speaker. Similarly, Kutlu et al. (2020) found the impact of perceived ethnicity on the intelligibility and foreign accentedness scores when the speech was paired with images of NNES. In other words, Kutlu and colleagues showed that American, British, and Indian were found to be more intelligible and less accented when paired with white faces. However, when the same recordings were presented with faces from South Asia, the results were the opposite. The South Asian faces tended to decrease the accuracy of intelligibility transcriptions, and the English varieties were judged as more accented. In Sheppard et al. (2017), listeners rated specific speakers as less comprehensible than their intelligibility scores

suggested. For example, university faculty members with positive attitudes rated international students' English with high comprehensibility scores, and those with negative attitudes rated them with low comprehensibility scores, despite being equally accurate in transcribing the speech of the students. This showed that 'listener attitudes affect perceived success of communication more than they affect listeners' actual ability to understand' (Sheppard et al., 2017, p. 49). Moreover, negative attitude could lead to using an 'avoidance' approach to the accented speakers. According to Subtirelu (2017), some undergraduates employed the strategy of avoidance with their accented instructors, avoiding interacting with them entirely in certain situations, which had a detrimental impact on communication success. Therefore, prior research has demonstrated that studying language attitudes within the teaching context may be crucial.

However, the above cited studies, as well as others (e.g., Kang et al., 2015; Rubin & Smith, 1990), have examined the response of NES to the speech produced by NNES, assuming that evaluations of native speakers would be the appropriate benchmark to determine what constitutes the three speech constructs for non-native speakers (Sheppard et al., 2017). However, the fact that NNES outnumber NES (Jenkins, 2002) makes it relevant to include NNES listeners in ratings of intelligibility, comprehensibility, and foreign accentedness. A more relevant setting would be mutual comprehensibility between non-native speakers of English (Jenkins, 2002), or mutual comprehensibility between groups in a real context with real communication (e.g., undergraduate students with their instructors). Therefore, research with NNES students as listeners and NNES instructors as speakers has emerged, and such studies demonstrate that NNES instructors generally receive negative evaluations. By employing survey techniques, NNES students experience comprehensibility issues while listening to lecturers with a non-native English accent (Bolton & Kuteeva, 2012; Hellekjær, 2010). Students in Norway and Germany, for example, found that pronunciation-related vocabulary items were unclear in EMI lectures (Hellekjær, 2010). In studies where an experimental method was used (VGT), Buckingham (2014) found that NNES students (Omani students) had more unfavourable attitudes

towards NNES accents, represented by English instructors from Iran, Kenya, Oman, Pakistan, Syria, South Africa, than NES accents of instructors from U.S. and U.K. in a linguistic course. In the EMI context, with VGT, similar results were obtained by Hendriks et al. (2021): NNES students (i.e., Dutch and German) evaluated moderate NNES accented Dutch and German instructors less positively in terms of attitude than slight NNES accented Dutch and German instructors.

Since the three constructs determine how a listener perceives what is said, it is appropriate for the three constructs to be operationalised in order to assess instructors in an educational context. This is relevant in the Saudi context because students learn from a variety of NNES instructors, who come from different linguistic backgrounds. The instructors use phonological systems that are not consistent with prestigious (NES) accent phonology, as well as one group of the instructors (IN/P) are not compatible with listeners' first language pronunciation. It is, therefore, valid to employ the three constructs to determine Saudi students' ability and tendency to listen to instructors with varying accents (including their accents). The actual communication needs are increasing among these groups, such as communication between undergraduate students and their NNES EMI instructors. Along with the evidence of accent-related stigmas in certain speakers or groups that were also linked to unfavourable attitudes and stereotypes, this present study aims to measure how students rate speakers with different L1 backgrounds (Saudi, Egyptian, Indian/Pakistani) in terms of ICA, and investigate if there is a relationship between students' attitudes (implicit and explicit) and the students' assessments of instructors of those three speech constructs.

3.4 Relevant research on students' attitudes and perceptions towards EMI instructors

There has been a growing body of much needed research into implicit and explicit attitude and how speech constructs are rated in the EMI context in the literature. When reviewing the studies exploring students' attitudes towards their EMI instructors, they

mostly report on how students perceive instructors in terms of the NES and NNES/locals in the EMI context. The debate between NES and NNES and the promotion of native speakerism has extended recently from the setting of ELT, where the language is the core of the field, to teaching content material with EMI in countries where English is not the L1 (see Chapter Three section 3.1.3). Studies on the students' attitudes towards EMI NES and NNES instructors highlight the high vitality of both instructors in the EMI context. For example, research by (Inbar-Lourie & Donitsa-Schmidt, 2013, 2020) effectively demonstrated the role of nativeness in the EMI context in an Israeli university. By using a questionnaire with closed and open-ended questions, they investigate the students' perceptions and preferences of NES and NNES (local) instructors who teach content courses, and they explore students' expectations regarding desired EMI instructors' qualities. The findings showed that half of the participants strongly preferred NES instructors. The reasons were due to the NES's accuracy of pronunciation, their authenticity of language use, high-standard accents, and students' hopes to improve their English skills with those instructors. The findings revealed that the NES background is considered an important attribute of EMI instructors. Nevertheless, the researchers concluded that it is not necessary for EMI instructor to be NES but rather to be a professional who has expertise in many specialised fields. A preference for NES instructors in the EMI context is also shown from an investigation in the Finnish context by Suviniitty (2007), who used a closed and open-ended questionnaire and found that engineer students prefer NES instructors over their counterparts even if the latter is as comprehensible as the NES instructor.

In Kym and Kym (2014), with a closed and open-ended questionnaire, they investigated 364 students enrolled in 11 different EMI courses and taught by NES (American) and NNE (Chinese and Korean) instructors. One of the research aims was to investigate whether Korean students' overall satisfaction and ability to comprehend differed according to the instructor's native language and nationality. The results revealed that Korean students showed more satisfaction in EMI classes with NES instructors than with NNES. Likewise, the students were more inclined to experience learning with foreign instructors (American and Chinese) but not with the local

Koreans. The preference for those instructors was because they had more EMI experience and better language competence and did not share L1 with Korean students. Nevertheless, the students were not given the opportunity to elaborate on their responses in an interview or relate their responses to their attitudes towards EMI instructors, which could have resulted in more nuanced data.

On the other hand, a study by Karakas (2017) in a Turkish university, utilised a questionnaire and interviews with 351 students to investigate students' preferences for NES and NNES (local) instructors who teach content courses. The researcher found that no preference was revealed for either particular group of instructors. Students viewed NES instructors as having some advantages over their local counterparts in linguistic courses. However, in teaching content courses, local EMI instructors were considered more appropriate due to their knowledge of the local language and culture; this allowed them to communicate more effectively with students. Nevertheless, the preferred NES profile in EMI programmes appears to go beyond language expertise, since some of the students involved in a study considered that 'being a NEST is equated with knowing the specialized content and communicating it to the students' (Karakas, p. 134). After their questionnaire, interviews, and classroom observation, Qiu and Fang (2019) came to the same conclusion. They examined 101 Chinese undergraduate students' perceptions of two categories of content instructors, NES and NNES, with a particular focus on their teaching behaviour and practices. The students stated advantages for both instructors; however, they praised the locals for their intracultural competence and the ability to address students' learning difficulties. Yet there appears to be no research examining students' EMI attitudes and perceptions on learning from foreign instructors with different nationalities.

In an experimental method, Hendriks et al. (2021) employed VGT to investigates how 158 NES students and NNES students (189 Dutch and 175 international) evaluate NES and NNES (Dutch) instructors with different accent strengths (moderate and strong) in terms of intelligibility, comprehensibility, accentedness, attitudinal items, and teaching quality. The researchers distributed the questionnaire online to university

students in the Netherlands. For measuring intelligibility, they asked students to listen to fragments and fill in words, and then calculated the intelligibility scores based on the total number of correct words. Comprehensibility, foreign accentedness, attitudes, and teaching quality were measured using a Likert scale. The results showed that all listener groups found instructors with moderate accents to have strong foreign accents more so than instructors with slight accents. They also found that all speakers were considered intelligible regardless of their foreign accent. In terms of attitude, the findings show that the non-native accented instructors were perceived more negatively than instructors with a native accent. Nevertheless, the VGT offers little insight into attitudes or what students want when learning, or what factors account for these attitudes.

A similar experimental method of VGT also has been utilised by Mu (2020) in the Chinese context. Mu has investigated students' preferences within NNES accented instructors, mainly locals. The researcher employed mixed methods with interviews and VGT to measure 178 Cantonese students' attitudes towards the two local accents, namely the Hong Kong accent and the Mandarin accent, as well as the social factors that influence students' evaluations, including gender, self-reported English proficiency, and familiarity with accent in an EMI university. Measuring attitudes was attained through the personality traits of status and dynamism, in addition to the dimensions of intelligibility and comprehensibility. Based on the study's findings, participants held more positive attitudes toward the Mandarin accent than the Hong Kong accent in terms of status, solidarity, and dynamism; however, in terms of comprehensibility, intelligibility, and accentedness, students held more positive views towards the Hong Kong accent. Additionally, the research revealed that social factors, that is, gender, self-reported proficiency, and familiarity all had different levels of effect on the students' judgements on English varieties. The study is interesting since it did not group external circle English as an intact group, rather it acknowledged the diversity of regional varieties, which is usually overlooked.

The following table summarises the studies, with their aims and methods, that have been conducted on students' attitudes and perceptions towards EMI instructors, mainly NES and NNES instructors, in the EMI context.

Table 3.2 Studies that have been conducted on students' attitudes and perceptions towards EMI instructors in EMI context with the aims and the methods used.

Studies	**Aim**	**Method**
Hendriks, et al., 2018, 2021	Students' attitudes towards the strength of accent of Native and Non-native EMI teachers in terms of competence, likeability, teaching quality and intelligibility in Netherland.	Quantitative method (Questionnaire with VGT).
Inbar-Lourie & Donitsa-Schmidt, 2013, 2020	Students' preferences of Native and Non-native EMI teachers' qualities in Israel.	Mixed methods (closed and open-ended questionnaire).
Jensen et al., 2013	Students' attitudes to their non-native lecturers' English skills, i.e., English language proficiency and knowledge of subject and teaching skills in Denmark.	Quantitative method (Questionnaire).
Karakas, 2017	Students' preferences of Native and Non-native EMI teachers in Turkey.	Mixed methods (questionnaire and interviews.
Kym and Kym, 2014	Students' perceptions of NE and NNE instructors in Korea.	Mixed methods (closed and open-ended questionnaire)
Mu, 2020	Students' attitudes towards two accented locals EMI teachers in China.	Mixed methods (Verbal Guise Technique (VGT) and interviews).
Qiu and Fang, 2019	Students' preferences of Native and Non-native EMI teachers' behaviours and practices in China.	Mixed methods (questionnaire, interviews, and observation).

Suviniitty, 2007	Students' attitudes towards NE and NNE instructors in a Finnish context	Mixed methods (closed and open-ended Questionnaire)

3.4.1. Concluding remarks

Based on the results of the above-mentioned studies, students may seek particular characteristics in content-based instructors that could be different from what they need from the linguistic-based instructors. The studies discussed in this section either investigated the local NNES instructors or failed to distinguish between NNES who shared the students' nationality and those who did not. Moussu and Llurda (2008) note that in ELT NNES instructors are not a single group, and, therefore, their methods can be different based on their English proficiency, their level of teaching, and their teaching styles. The fact that many NNES EMI instructors teach in nations other than their own is also for scholars to consider. The importance of recognising the L1 backgrounds of NNES instructors for EMI is equal to or even greater than it is for ELT. Though the subject of investigating attitudes towards NES and NNES instructors has been widely discussed in terms of English language instructors (Ling & Braine, 2007; Ma, 2015; Moussu, 2006), and in SA (e.g., Ahmad et al., 2016; Alghofaili & Elyas, 2017; Alseweed, 2012), it remains relatively under-explored with regard to EMI instructors. Moreover, given the number of studies comparing attitudes towards NES and NNES in EMI, it is surprising that not many have included instructors with different linguistic and cultural backgrounds. EMI studies generally treat all instructors as one entire group, and, therefore, present different perspectives from students. The aforementioned investigations by Inbar-Lourie and Donitsa-Schmidt, (2013, 2020), Karakas (2017), Qiu and Fang (2019), and Suviniitty (2007) focused on comparison between NES and NNES and did not consider EMI instructors who are coming from different L1 backgrounds. Studies such as Qiu and Fang (2019) and Karakas (2017) have emphasised that students' views on instructors of different language and cultural backgrounds deserve more attention. Such research is needed to inform the EMI instructor training programmes and to give insights to recruiters and policymakers alike.

This debate is supported by the need to address NNES problems within a specific EMI context, which could include additional variables relevant to the context itself and the local programme settings and student/instructor populations. For EMI settings, there is a huge range of experience, and each EMI is theoretically different in every country (Dearden, 2015; Doiz et al., 2013). For example, every EMI context 'has its own characteristics' (Doiz et al., 2013, p. 219) and creates its own 'language regime – its own set of rules, orders of discourse, and ideologies – in which linguistic resources are assessed differently' (Busch, 2012, p. 520). In other words, every EMI context is implemented within its cultural and societal contexts, and demographic factors for each country need to be taken into account as they pertain to a specific EMI and its application in that country. Findings from one country may not be applicable to another. Taking these widely different characteristics of EMI contexts into account, the notion of treating EMI as a single type is a monolithic fallacy (Knagg, 2014). In the present context of Saudi Arabian universities, the most common scenario is that Saudi students are homogeneous. Both students and instructors communicate and interact in their L1 (Arabic) and L2 (English). Those instructors are from a wide variety of countries. This situation is very different from the above studies as well as from EMI courses in European countries where NES and NNES instructors are commonly found with various L1s and teaching classes that include NES students, NNES students, and local students. Given the discussions above, it is necessary to conduct more in-depth research on students' attitudes and perceptions towards NNES EMI instructors in academia, particularly in a context like SA that has a unique configuration of students and instructors that differ from previous studies. Therefore, this study addressed that by investigating the students' attitudes and perceptions of EMI NNES instructors from different linguistic and cultural backgrounds and how those instructors were rated in terms of the three speech constructs, intelligibility, perceived comprehensibility, and perceived foreign accentedness. Moreover, the study investigated if the attitude of the students has any relation to how students evaluated NNE EMI instructors on the three speech constructs.

3.5 Chapter summary

This chapter has provided a detailed discussion on the EMI, attitude, and the three speech constructs, intelligibility perceived comprehensibility, and perceived foreign accentedness, their measurements and the factors that have impacts on them. The first part of the chapter has discussed EMI and the rationale behind the adoption of this policy. It has also examined current literature on EMI in a global context and explained why EMI has become increasingly popular in higher education in non-Anglo countries. The chapter sheds light on the benefits and challenges of this policy along with giving a comprehensive review of the present literature in EMI research in the Saudi context, and critically demonstrating that research on EMI in SA higher education is very restricted and that more study is urgently needed to fill the gaps in the existing literature.

The second part of the chapter has detailed the broader context of the thesis with a discussion of the attitudes in sociolinguistics and social psychology along with the measurements used for language attitudes.

The third part outlined different approaches that have been used to operationalise the three constructs and the drawbacks attached to each of them. This chapter has also shown that the level of understanding between interlocutors is increased based on the different listener and speaker factors, and it has focused on the listeners' factors that impact facilitating understanding, including sharing an L1, familiarity and attitude. Since the current study focused on attitude, the chapter also has discussed this factor in detail. As demonstrated in this study, attitudes are not straightforward and are affected by a variety of factors, and it is important to consider the broader social conditions because of how they affect attitudes toward language and their speakers.

The chapter has shown the debate about attitudes and the preference for NES and NNES's from ELT to the EMI contexts, and how students have perceived EMI NES and NNES instructors in studies thus far. However, these studies provide little

information on if instructors are coming from different L1 backgrounds and on where these attitudes stem from, and further research is needed.

Despite the increasing number of studies examining the ratings of the three speech constructs, the number of studies focused on the implicit and explicit attitude effects on these constructs in the EMI context remains limited. In terms of attitude, the examination of the previous studies has employed direct measures, and very few used indirect methods, particularly implicit methods. Research methods should not rely upon one single method since this may yield skewed or unreliable findings. Instead, a variety of techniques are needed to gain deep insights. There is an apparent lack of studies that investigate the students' implicit and explicit attitudes towards NNES EMI instructors and the influence of this attitude on NNES listeners' evaluations of intelligibility, perceived comprehensibility, and foreign accentedness of NNES, and the factors that predict the listeners' evaluations of the three constructs in actual communication, such as in the EMI context, and even fewer in the Saudi context. Due to the fact that students are the primary recipients of content materials in the EMI setting, their attitudes are indispensable to instructors, recruiters, and policymakers alike. In the next chapter, the research design of this study is outlined.

Chapter Four: Methodology

The previous chapter provided an overview of the EMI-related issues, language attitudes, and speech constructs and formed the conceptual framework for the current research. The focus of this chapter is on transforming the conceptual framework into the range of issues that constitute an operational fieldwork map. This chapter gives a detailed description of the study design, starting with the outline of study aims and research questions; it then continues with a discussion of the research design adopted to investigate students in the Saudi context. Then, it gives a detailed description of the sampling techniques, research instruments, data collection procedures, along with the pilot studies and how they helped the main study. After that, matters regarding the reliability and validity of the study instruments are discussed. The chapter concludes with an overall account of the data analysis methods and ethical considerations.

4.1 The aim of the study and research questions

As described in the introduction chapter, the focus of this study is to present a holistic picture of the students' attitudes and perceptions towards multiple L1 instructors (Indian/Pakistani, Egyptian, and Saudi) who are teaching content subjects through the medium of English in Saudi context. The study aims to measure both implicit and explicit attitudes in order to provide a wider insight into students' attitudes. This study also focuses on uncovering the main factors affecting these attitudes for a richer understanding of their attitudes towards EMI instructors. On the basis of the potential effect of listeners' attitudes on the evaluations of speakers' speech constructs, this study aims to explore how students evaluate their instructors' intelligibility, perceived comprehensibility, and perceived foreign accentedness and further test the potential impact of attitudes on these three constructs. This study, therefore, poses the following research questions:

RQ1- Do Saudi students hold different attitudes (implicit and explicit) towards Arab NNES and non-Arab NNES instructors who teach content courses using EMI? And (if any) why?

RQ2- How do Saudi student listeners rate EMI instructors in terms of intelligibility, perceived comprehensibility, and perceived foreign accentedness?

RQ3: Does the presence of students' attitudes affect their ratings of intelligibility, perceived comprehensibility, and perceived foreign accentedness of EMI instructors?

RQ4: What demographic factors affect Saudi students' implicit and explicit attitudes towards EMI instructors?

RQ5: What demographic factors, besides attitudes, affect Saudi students' ratings of intelligibility, perceived comprehensibility, and perceived foreign accentedness of EMI instructors?

It was believed that answering these research questions would make it possible to draw implications for stakeholders, including students and instructors. Answering these research questions would suggest ways to improve students' awareness regarding the EMI instructors' English, to prepare instructors to engage properly in EMI teaching, to contribute to instructors professional training in a context where it lacks such training, and, ultimately, for both students and instructors to contribute to the EMI context generally.

4.1.1 Research setting

Saudi Arabia was chosen to undertake the fieldwork for the research purpose of this thesis. This was chosen as a matter of convenience, as I am working in the university under investigation (University A henceforth), but more importantly this context was chosen for the following three main reasons: firstly, in recent years SA has become the chosen place for people to work from all over the world due to its rich resources (Nurunnabi, 2017); secondly, it is one of the largest workplaces for recruiting EMI or

EFL instructors in the Middle East, and as a result of increases in the number of public and private institutions (MOE, 2020), the demand for instructors is also increasing (Alenazi, 2017); thirdly, the Saudi context is chosen because it is a newcomer to EMI and lacks research on EMI (Macaro et al., 2018), and this study was seen to help to contribute to the existing context. The subjects were undergraduate students at University A, a non-profit public university. University A is located in the western province of SA. There are approximately 30,000-34,999 students in total. Departments that are using English as a medium of instruction include the Medical College, Computer Science College, and Applied Science College. This university was chosen due to my position as a Lecturer in the English Language Centre which made it possible to obtain permission to conduct the research and gain easy access to students. It also provided the accessibility to record speakers for the measurements of ICA. The English Language Centre, where a number of English courses for academic and special purposes are offered, helped me to contact English instructors who are teaching students majoring in these disciplines. Subjects were undergraduate Saudi students. They were all females due to gender-segregated education in SA.

The use of multiple methods and one site allowed an in-depth investigation of the situation. Therefore, focusing solely on SA made more possible extensive research into the broader social background of the respondents than if many countries were used. Previous studies (e.g., Maio et al., 2018) have shown that attitude is shaped in a number of ways, and studies focused on one particular context can consider the subjects' historical and cultural settings in depth.

The sampling procedures and sample size for the qualitative and quantitative phases of the study are described in Section 4.2.2. The next section describes the research design adopted for the current study.

4.2 Research Design

4.2.1 Mixed methods research

I determined that a single approach may not effectively address the main research questions. As a result, I adopted a mixed methods research design, which entails integrating data collection methods from both qualitative and quantitative methods in a single study (Creswell, 2009; Dörnyei, 2007). In addition to mixing data collection methods, mixed methods studies can combine the analyses of quantitative and qualitative data within one study (Creswell, 2009). This research is an exploratory study, and the previous Saudi literature on EMI has been reviewed (see Chapter Three), and the attitudes and perceptions of Saudi students on EMI instructors were found to have not been fully examined. Given that, this study investigated this phenomenon in a more holistic way. Parallel to the exploratory nature of this study, the design used a sequential mixed method in which qualitative and quantitative data were collected, integrated, and analysed to better understand the research questions. Qualitative, and quantitative research can be combined in order to support each other or to function as complementary strategies (Bryman, 2012).

The aim of mixed methods research is to widen the scope of understanding of language attitudes, to obtain rich data (Sandelowski, 2003), to establish better-contextualised instruments for a certain population, and to gather individual perspectives from community members under investigation. In order to obtain the wider picture, Creswell (2013) notes that employing sequential qualitative and quantitative methods can be one way to ensure that one method informs the development of the other. Therefore, the interviews and focus groups inform the development of the questionnaire items as well as the implicit IAT attributes. In this study, all tasks including the IAT, the questionnaire, and the speech experiments of ICA became useful in providing a quantitative element to help evaluate students' attitudes implicitly and explicitly.

Miles and Huberman (1994) argue that qualitative and quantitative analysis, instead of polarising research, will advise and help one another. Dörnyei (2007) suggests that research involves mixed methods because the benefits of one approach may help overcome another's limitations. One example in the current study is using interviews to investigate underlying experiences by interviewing respondents and collecting in-depth information; however, the drawback of this method alone is that the small numbers of respondents involved in the interviews may mean that the findings will not generalise to the wider population of students' and their attitudes towards groups of EMI instructors. The questionnaire, the IAT and the perception experiments can address this drawback by implicitly and explicitly as well as objectively and subjectively investigating and allowing a large amount of data to be obtained in a short time.

In this study, the research methods were selected to investigate various aspects of attitudes, speech evaluations, and thus present a multidimensional picture. These techniques were chosen to function in conjunction with one another in order to achieve a balance between explicit and implicit, as well as quantitative and qualitative approaches. Within my research design, a qualitative dataset serves as an exploratory component, while the research is predominantly quantitative. The qualitative strand (interviews and Focus groups) was initiated before the quantitative strand (IATs, speech experiments, and attitudinal questionnaire) for two reasons: (1) to explore the context because it was the first time being investigated, and (2) to assist in the development of the quantitative strand in terms of IATs attributes and attitudinal statements. The quantitative strand of data was then included in order to contact a wide number of participants and to obtain a representative sample size for a comprehensive view. By utilising these methods, the aim was to produce a 'pieced-together set of representations that are fitted to the specifics of a complex situation' (Denzin & Lincoln, 2005, p. 249), and, therefore, a complete and holistic picture is created (Creswell, 2013). In other words, the study understands and further explores the attitudes of students towards EMI instructors in SA and then reports on their attitudes and the factors underlying their attitudes.

The mixed methods approach was chosen for two reasons. First, the study's elements—attitudes, speech constructs, and the context of EMI where the Saudi students' study—cut across various disciplines, including sociolinguistics, social psychology, speech perception, and education. It may be challenging to cross disciplinary boundaries, but it is essential for developing new theories, evaluating conceptual relationships, and examining complex problems from a fresh perspective. As discussed in Chapter Three, attitudes, speech perception, and EMI are not confined to a particular discipline, necessitating the use of a diverse range of methodologies. On the one hand, this makes determining an appropriate methodology more difficult. On the other hand, it expands the range of methodologies available to answer the research questions.

The second reason for employing a mixed methods approach is triangulation, which involves 'approaching the data from different perspectives in order to get a "fix" on them' (Richards et al., 2012, p. 350), hence boosting the findings' validity (Dörnyei, 2007). Triangulation is advantageous because it helps to complement the approaches that are employed. For example, qualitative data, such as interviews or focus groups, are susceptible to social desirability biases that limit their generalisability, and questionnaire survey data are lacking in depth. Utilising a variety of data and viewing them from a variety of perspectives mitigates the potential shortcomings of each technique while enhancing its strengths (Dörnyei, 2007). Throughout this thesis, four complementary methods are employed: interviews with students, closed and open-ended questionnaires, speech constructs experiments, and IATs. These methods were selected to work together to achieve a balance between quantitative and qualitative methodologies, and data collected here can be compiled to create a picture of EMI, attitudes, and speech perceptions among Saudi undergraduate students. Figure 4.1 shows this research design.

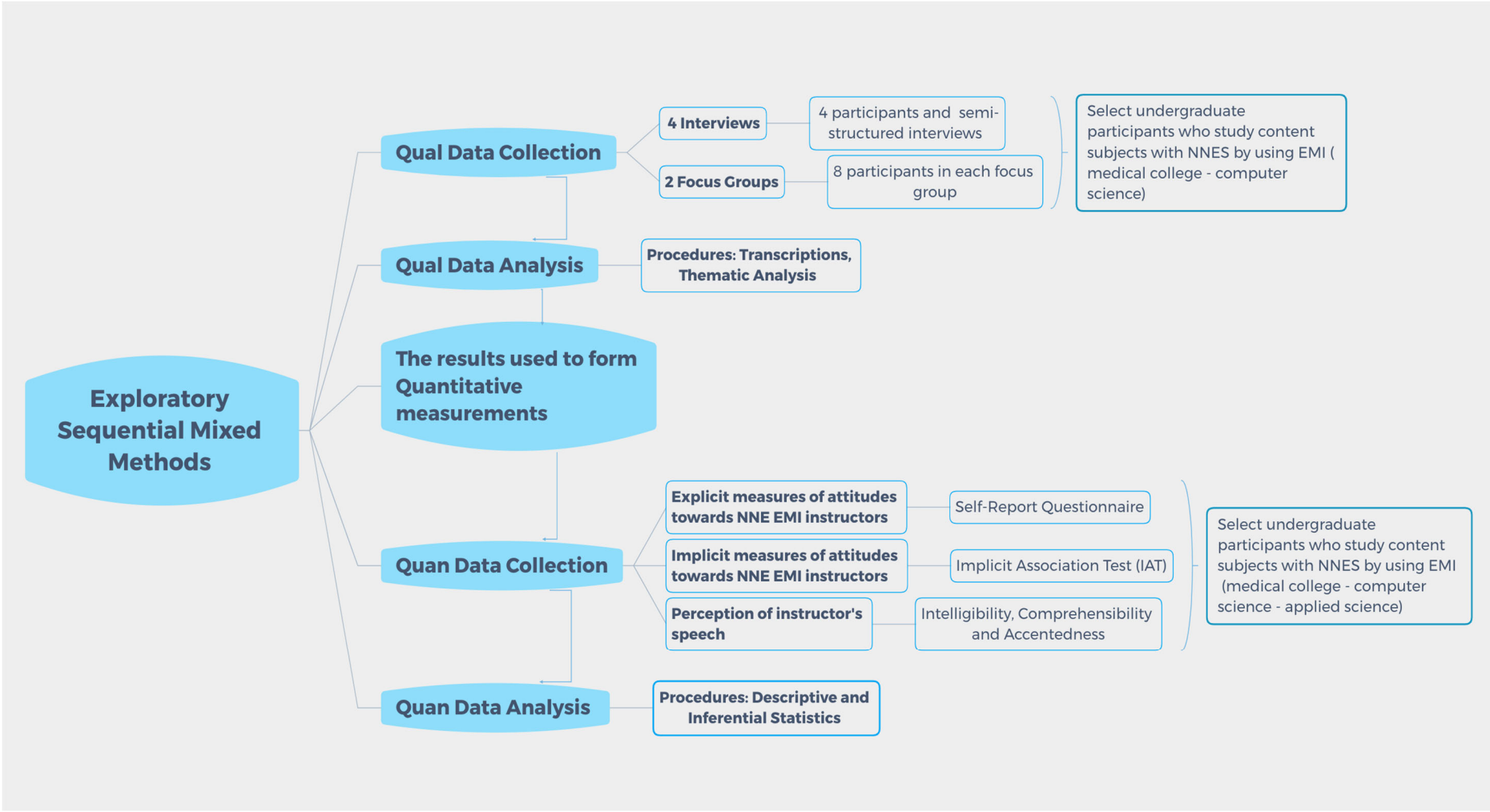

Figure 4.1 The exploratory sequential mixed method of the present study.

4.2.2 Participants and sampling procedure

Research involving mixed methods is typically carried out with samples of different sizes collected using a variety of techniques (Teddlie & Tashakkori, 2009). In terms of mixed methods research sampling strategies, Teddlie and Yu (2007) and Brown (2014) classify them into five categories: basic, sequential, concurrent, multilevel, and combined. A sequential sampling strategy was adopted in this investigation. Sequential sampling describes a situation in which one sample comes before the next and influences what the researcher does with the subsequent sample (Cohen et al., 2011). In this study, convenience and purposeful sampling strategy were used (Patton, 2015) to select participants for both the qualitative interviews and the quantitative experiments and questionnaire. The sampling strategy was convenient in that the participants were chosen based on their willingness to participate in the study or their presence in the university at the time of conducting the research. They were sampled from the target university students where the researcher works, and instructors granted the researcher's access to the students. The sampling technique was likewise purposeful since I aimed for a sample that was representative of the EMI population at the university, and to make sure they had experienced 'the central phenomenon' (Creswell, 2009, p. 217). The central phenomenon of this case is the study with NNES EMI instructors in the Saudi context. Although these sampling techniques have limitations due to their subjective nature, convivence and purposive sampling, they were used because of their practicality in terms of accessibility and time.

The population selected for the present study was Saudi nationals currently learning content subjects by using EMI at a university in SA. In the qualitative phase, four students in the interviews, and eight students in each focus group at University A volunteered to take part in the study. All students were female and ranged from 18-21 years old (see Section 4.3.1 for demographic details of students). Pilot studies and the main study followed a similar sampling procedure due to its flexible design for choosing the participants. All these students had experienced studying content subjects with varieties of EMI NNES instructors. In the quantitative phase, a total

number of 110 students volunteered to participate in the study through an online instrument. More information on the demographic backgrounds of the participants who volunteered in the quantitative phase is provided in Chapter Six.

4.3 Data collection methods and procedure

Table 4.1 shows the data collection schedule. An exploratory study was conducted first that involved interviews and focus groups (discussed in detail in the next section). This was followed by pilot experiments and questionnaires, and then the main study data collection was conducted.

Table 4.1 Timeline for data collection

Stage	Date	Instrument	Time (in minutes)	Number of students
Exploratory study	October-November 2019	Interviews	30-40	4
	October 2019	Focus group	45-50	8
	October 2019	Focus group	45-50	8
Pilot study 1	March 2020	IATs + speech constructs Experiments + Questionnaire	55- 70	12
Pilot study 2	April 2020	IATs + speech constructs Experiments + Questionnaire	55-70	26
Pilot study 3	May 2020	IATs + speech constructs Experiments + Questionnaire	35-40	21
Main study	October 2020 - February 2021	IATs + speech constructs Experiments + Questionnaire	35-40	110

4.3.1 Qualitative approach instrument

In order to listen to students' voices about their instructors and explore their opinions about their perspectives on a hitherto unexplored topic, starting with a qualitative approach was deemed suitable to examine the phenomenon. Qualitative studies are essential particularly for understanding the meaning of respondents' actions, situations, and experiences (Fraenkel et al., 2012). It is also of considerable importance to 'understand the particular context within which the participants act and the influence this context has on their actions' (Maxwell, 1996, p. 221). For this current research, it was important to see how Saudi students perceived the NNES EMI instructors and the kind of features that are associated with and have influenced respondents' perceptions. Creswell (2013) states that qualitative research is particularly useful when a question or issue needs more exploration. Such exploration is of particular importance if the researcher wants to study a community or population and recognise and listen to their voices that have been ignored. Moreover, the qualitative method is useful to acquire a complex, detailed, and contextual understanding of a certain problem (Creswell, 2013). To arrive at this understanding, interacting directly with respondents by listening to their stories needed to be considered. Qualitative research has been prone to criticism due to its small samples and lack of methodological strategies; however, it offers an efficient way to explore and capture neglected ideas (Dörnyei, 2007). The current research aimed to take advantage of qualitative research in using the prominent themes collected from the students to develop the questionnaire and IAT as a following data collection stage, as well as using it to understand what is behind students' attitudes towards their EMI instructors. In this design, the qualitative method served as an input which helped develop a variety of subjective and contextual attributes for testing and was considered as being valuable for the quantitative method. While the qualitative data were important as a starting point to explore in-depth perceptions of the respondents, my study drew more on quantitative data to understand students' attitudes and perceptions from a broader perspective through employing multidisciplinary methodologies.

Interview

As was mentioned in Chapter Three, relying only on one approach may not provide an adequate understanding of students' opinions; thus, in addition to the indirect method, the direct method was used to uncover what was behind students' attitudes and help to pave the way for the next phase, that is, the quantitative phase.

Flexible interviews can help to address and understand what the essence of language attitude research might be. Language attitude researchers employ interviews to gain insights on social issues by understanding the experiences of individuals under investigation. Interviews are useful in providing insights on exploratory research (Bryman, 2012) and they give interviewees the opportunity 'to express their own understanding in their own terms' (Patton, 2002, p. 348). The interview technique is used in this study as a way of exploring students' attitudes towards instructors and factors underlying their attitudes. These interviews helped to produce useful qualitative data: collecting data on opinions, views, and attitudes, and they helped the development of the second phase of this research. Interviews were conducted in the form of spontaneous conversations, where respondents could share their stories in a relaxed atmosphere since I was not their instructor; however, I was still an insider, being from a similar cultural and educational background. Moreover, they were encouraged to share their experiences and describe their instructors through providing suitable adjectives (see interview guide and questions in Appendix A2).

Semi-structured interviews were used because this type of interview does not have a rigid set of questions and prompts that must be asked in a specific order; rather, it gives the researcher a considerable deal of flexibility, freedom, and adaptability when it comes to eliciting information from participants (Dörnyei, 2007). Furthermore, the interviewer may make 'on-the-spot decisions' to inquire further into relevant concerns or responses that are deserving of additional investigation during the interview, such as asking the interviewee to comment on related themes or provide notable responses (Kvale, 2007, p. 34). Nevertheless, the structured part offers the interview the general

shape and prevents 'aimless rambling' by keeping the interviewer in charge of the interview's direction (Opie, 2004, p. 18).

Administration of interviews

After obtaining ethical approval, I began to recruit interviewees, firstly, by obtaining permission from their instructors. Thereafter, I used WhatsApp to approach possible instructor participants who were willing to take part in the research. Subsequent to receiving students' consents, I expressed my gratitude to them, confirmed that they had been selected for the interviews, and planned timings. Four students participated in the in-depth interviews, as shown in Table 4.2. In addition, two focus groups, which consisted of eight members from two majors, were recruited for group discussions, as shown in Table 4.3. The researcher's office at University A in SA was selected as the venue for conducting interviews as it was an ambient relaxed setting without external distractions.

Table 4.2 A list of respondents of interviews participated in the study

Participants (Interviewees)	Gender	Major	Date of interview	Length of interview (Min:Sec)
1	Female	Computer science	29/10/2019	39:07
2	Female	Computer science	29/10/2019	39:25
3	Female	Computer science	30/10/2019	33:58
4	Female	Computer science	30/10/2019	30:16

Table 4.3 A list of respondents of focus groups participated in the study

Student FG	Gender	Number of students	Major	Date of FG	Length of FG
FG 1	Female	8	Medicine	30/10/2019	46:26
FG 2	Female	8	Computer science	31/10/2019	48:28

At the end of October 2019, I carried out four semi-structured interviews with four students from the Computer Science College. The students also were given the choice of interviews being held in English or in Arabic. All chose Arabic on the basis that they would be better able to express themselves about their experiences and would feel more comfortable in the interviews without having to worry about their use of language. The interviewees were encouraged to share their feelings about learning in English, in particular, their classroom experiences of their instructors who are teaching them content subjects and their English. They also shared knowledge, feelings, experiences, attitudes, and behaviours surrounding their non-native instructors. During the interviews, an interview guide and a piece of paper with some notes was used. The interviewees gave permission for the interviews to be recorded. The aim of the study was explained to each student, and the researcher confirmed that the contents of the interviews would not be made available to any other source, emphasising that included class instructors. This reassurance helped to develop a relaxed atmosphere for encouraging the students to give free expression to their thoughts. The recording was made only during the formal phase of the interview, which in turn lasted between 30 to 40 minutes. The interview guide was used during the interviews (see Appendix A2).

Focus group

Focus group (FG) discussions are described by Hydén & Bülow (2003) as 'a tool for exploring people's views or perceptions of attitudes towards, and experiences of particular areas in life' (p. 306). They tend to be more interactive and generate greater spontaneity from members (Dörnyei, 2007) and are more participant-orientated than interviews. In the FGs, the members listened and answered questions, recalled their previous personal experience, reflected on their comments, held discussions among themselves, and asked questions. Focus groups are of considerable value due to the observations and insights they provide on a particular topic, which are not easily obtained from interviews (Cohen et al., 2011). This method can give a large amount of data in a short period of time (Cohen et al., 2018), and can be less stressful and give great anonymity when compared with interviews (Vaughn et al., 1996), allowing

respondents to express their views more openly. Deciding the number of participants in a focus group is important because in a small group individuals could have a disproportionate effect, and, on the other hand, large groups can be unmanageable (Cohen et al., 2018). Thus, eight participants were deemed an appropriate number as suggested in the literature (Cohen et al., 2018; Morgan, 1997). For this study, FGs were, therefore, valuable as an initial data collection by allowing students to share their different perspectives, opinions, and experiences informally, and gave this research the benefit of in-depth discussion and identified the potential orientation of Saudi students' attitudes and reasons for them in regard to their content subject instructors.

Administration of FG

Semi-structured FG discussions were conducted with the same questions as the interviews. The researcher moderated since it is important to be from the same population (Smithson, 2000) and have no previous contact with participants. The moderator's role is to lead the discussion and keep the participants focused on the topic under discussion (Cohen et al., 2018). The moderator also aims to note particular issues, ask questions related to them, to probe the subjects in greater depth, while ensuring all participants have an equal opportunity to participate in the discussion. Medical students formed the members of the first FG. The second FG was held with students from the Computer Science department, as shown in Table 4.3. Both groups were held in October 2019, consisted of eight members, and the sessions lasted for 46 and 48 minutes, respectively. Participants from both groups came together with chosen friends for group discussions, which allowed them to express their feelings, experiences, and attitudes. The FGs were in Arabic and were held in the researcher's office at university A. The participants gave permission for the group discussions to be recorded. There were some participants who were familiar with each other, which helped the members to build a rapport quickly; after a brief introduction and signing the consent papers, the participants were given the opportunity to ask any questions pertaining to the research topic and were encouraged to engage in informal discussions. Participants were asked to answer questions and share their thoughts

based on their NNES EMI instructors at the time of the data collection. The researcher endeavoured to discover any difference in attitude or variance of perspective within the groups. The subsequent analysis was qualitative and will be explained in detail in Chapter Five.

4.3.1.1 Credibility and validity

The term 'credibility' refers to the accuracy of the views of participants on an issue under discussion (Lodico et al., 2006), since qualitative research is usually based on several realities, qualitative researchers need to make sure that their findings are trustworthy, 'credible,' to their participants (Gass & Mackey, 2005). To achieve credibility in this study, various strategies have been implemented. For example, triangulation at different levels in order to check that the interpretation of the data is accurate (Guba & Lincoln, 1994). The credibility of the qualitative data was maintained by informing interviewees of the research topic, ensuring that their privacy was protected through the disclosure of personal data, and advising them of their right to refuse to answer questions prior to conducting the interviews (Fraenkel et al., 2012). Credibility was also established through respondent-validation or a member check, which was considered an essential step to ensure the descriptions are accurate (Yanow & Schwartz-Shea, 2006). Thus, after finishing the interviews' transcriptions, they were given back to the interviewees to confirm their own answers and to ensure that I understood their intended meaning. This was done by inviting the interviewees for a second time to the researcher's office and giving them the transcriptions to read without distractions. Thus, a member check was conducted during the interview phase not after the analysis phase because I did not have the participants emails.

4.3.1.2 Data analysis (individual interviews and FGs)

The data analysis of qualitative research was important in developing the second phase of this research, which was the quantitative one. Since the focus was on the participants' perceptions and attitudes, it was critical to understand and interpret the data in light of their experiences, which provided a variety of viewpoints to this study

(Cohen et al., 2011). Data analysis can be defined as ‘a process of making sense of, sifting, organizing, cataloguing, selecting, determining themes and processing the data’ (Holliday, 2002, p. 99). Qualitative data analysis is a challenging and time-consuming process. It is described by Marshall and Rossman (1999) as being ‘a messy, ambiguous, time-consuming, creative, and fascinating process. It does not proceed in a linear fashion: it is not neat’ (p. 150). Although the qualitative data in this study is smaller in scale, it was comprehensively analysed. In this section, the analysis technique, the process of transcribing both tools, namely individual interviews and focus group recordings, as well as the coding and categorising of the resulting data is described.

Thematic analysis (TA)

Thematic analysis is a technique for detecting, analysing, and reporting data patterns (Braun & Clarke, 2006, 2020). It was selected for the purpose of being flexible and more easily accessed by a wide range of readers due to the organisation of its findings under distinct themes, making it reader-friendly (Hopkyns, 2017). Moreover, it was used because it can help to identify common experiences and perceptions among participants in respect to a shared phenomenon (in this case, studying with NNES EMI instructors). Additionally, Wilkinson et al. (2004) considered the TA approach’s suitability for sample size and data set, noting that TA is suited for small samples (Joffe & Yardley, 2004), and it also offers a qualitative framework for exploratory analysis (Guest et al., 2012). The current study used prior literature, data, and research questions to inform the analysis and make it more appropriate. Pseudonyms were given to the interview respondents.

The analysis of both tools (individual interviews and FGs) followed the same data analysis. The same stages of Braun and Clarke’s studies (2006, 2020) were followed to ensure that the coding was systematically carried out. These steps provided the basis for analysing the data (Byrne, 2021) logically and sequentially. The first step was reading the data to become familiar with it as a whole and then breaking it into parts and making notes. I listened to interviews, transcribed the recorded voices in

Arabic, and then translated them into English. The data transcription often differs from researcher to researcher (Bailey, 2008). Because the research is primarily concerned with students' experiences and attitudes toward their instructors, the transcription concentrated on the content of what was stated. My comments were also noted during and after the interviews (see Appendix B5) regarding any salient thoughts or points. In the case of the FGs, the notes described what each participant wore and their individual characteristics. For instance, describing seating areas and making remarks about their clothes were deemed relevant because they would aid in recognising the voices later in the transcriptions. Despite the fact that transcription is a time-consuming procedure, I transcribed the data myself, and it was seen as an important stage in the research because it brought me 'close to the data' (Denscombe, 2010, p. 275). I was able to thoroughly immerse myself in the data by reading and viewing transcripts several times to familiarise myself with the data.

The next steps were analysing the data to identify themes that stood out. Free codes were then categorised under smaller themes (Appendix B1). The free codes were formulated through a mixture of concept-driven coding and data-driven coding in order to identify the dominant themes. The coding technique was conducted mainly manually, but then NVivo 12 software was also used for identifying frequencies. Doing so was useful in again allowing the researcher to be completely immersed in the data. For manual analysis, the transcripts were read line by line to identify prominent ideas, keywords, and phrases, and they were coded to formulate a bigger category. Coding technique was conducted using the 'comments' feature in Microsoft Word (see Appendix B6 for example). In this way, codes were noted in the margin and areas of text assigned to each code were highlighted with their coded colours. Then, the data was sorted to look for patterns. Since the data was about the experiences, opinions, and feelings towards instructors, codes of 'negative' and positive' were used for the codes. For example, when students mentioned 'accent,' then that was coded as either a negative or positive description of accent (Appendix B1). After all the transcripts had been initially coded, the codes were examined for consistency and overlap with other codes. This process allowed defining the codes

and grouping them together. Due to overlap with other codes, some of the early codes were abandoned or combined at this point. Those emergent codes that contributed to the research aims were selected for further examination. After implementing this phase manually, NVivo was also used to allow the researcher to easily group references that have similar meanings under the same code, which makes it easier to choose appropriate extracts for the emergent themes in the final stages. It was also used to record frequencies of keywords and phrases that were used by students in negative and positive manners (see Appendixes B3 and B4), for example, how many times participants mentioned the Egyptian instructor with Arabic in a positive way (or as an advantage). The last step is reporting and interpreting final results for the research as will be carried out in Chapter Five.

4.3.2 (Developing) quantitative approach instruments

The aim of the first phase of the qualitative method was obtaining an overall impression of students' views as regards the instructors and answering the second part of the first research question about the reasons behind students' attitudes towards their EMI NNES instructors. That stage was also used to set the scene for later quantitative study by (a) developing the questionnaire items and (b) providing the attributes that were used in the IAT experiment. Interviews focused on the types of experiences with their instructors and provided appropriate adjectives describing those instructors. Emerging themes, such as the accent of the instructors, teaching quality, and shared L1, were used to develop the attitudinal questionnaire constructs. A few of the students' phrases were also used as statements in the questionnaire, with appropriate Likert scales added. For example, a student's phrase, 'she cannot speak Arabic,' was used as a statement for the developed construct. This procedure resulted in the development of the questionnaire's items. Moreover, the first phase provided the attributes that were used in designing the implicit measure, the IAT (more details about attributes are given in Section 4.3.2.1). Thus, the second phase of (developing) quantitative method involved constructing, piloting, and validating the research instruments that were used to measure attitudes (implicit and explicit) and the speech

constructs' assessments. The next section describes the second phase for each instrument.

Quantitative approach instruments

The quantitative instrument was designed around the main research questions. This stage included implicit attitude with IAT, and explicit attitude with self-report questionnaire; experiments of the three speech constructs' ratings; and the demographic factors that could affect students' attitudes and speech assessments. The measurements were divided into four parts with part one covering the implicit attitudes with IATs following the procedure of Greenwald et al. (1998) and using iatgen[8] to develop the design and the analysis in the later stages (Carpenter et al., 2017, 2019). The second part covers speech constructs' experiments where students rated INT, PC, and PFA of their instructors following the procedure of Munro and Derwing (1995b) and Munro et al. (2012). For part three, attitudinal statements were used in a questionnaire to measure explicit attitudes (such as those utilised by Hendriks et al., 2018; Ling & Braine, 2007; Moussu, 2006; Qiu & Fang, 2019). Part four, elicited demographic information, essential to understanding attitudes, such as experience abroad, year of study at the university, major, English proficiency level, exposure to EMI instructors of various nationalities, and media consumption.

Taken together, the following figure conceptualises the variables of the current study in terms of the attitudes towards EMI instructors and the evaluations of speech constructs, showing how these variables alongside their measurements used in the present study emerged from different disciplines.

[8] Iatgen (https://iatgen.wordpress.com/) is a free tool that is designed to be used online in Qualtrics as a survey-software in order to make it easily accessible for researchers to do their experiments online. It has been shown to be reliable and valid for IAT presentations (Carpenter et al., 2017, 2019).

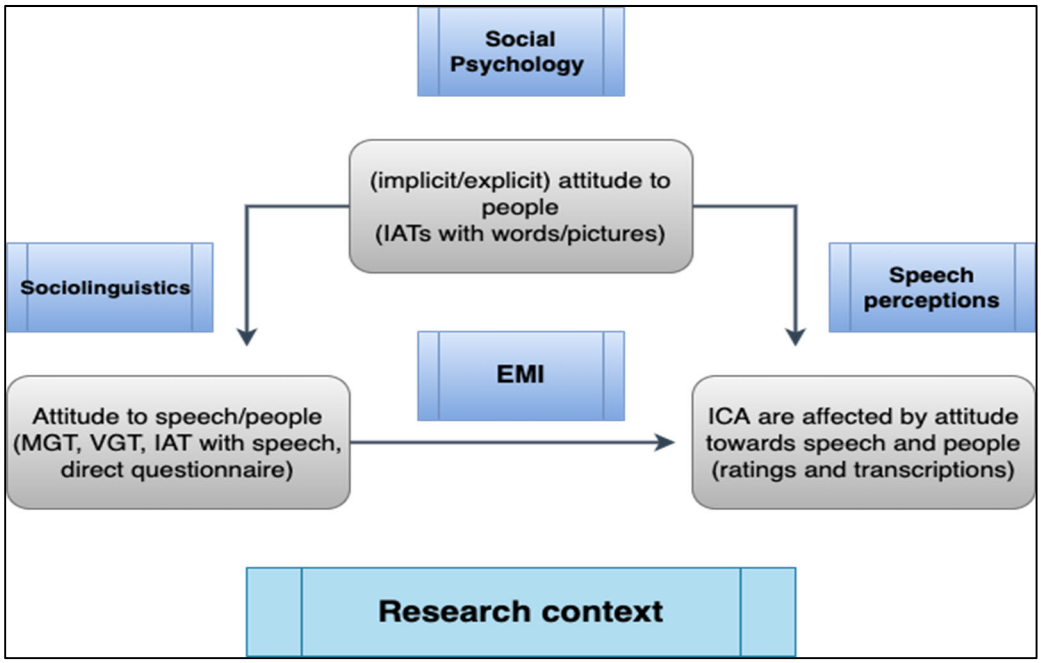

Figure 4.2 Summary of how the connection between different disciplines and the emergent measurements from these disciplines

The figure above shows that research in attitude in social psychology is driving the research in sociolinguistics as well as the speech constructs' studies, which are both affected by attitude to speech and attitude to people. The figure also shows varieties of methods that have emerged from each discipline, and some of these were utilised in the current study: IAT with words from social psychology, direct attitudinal questionnaire from sociolinguistics, ratings and judging True/False statements for measuring ICA from speech constructs' perceptions by using a modified version of VGT. Moreover, the research context is likely to have the power that drives the underlined attitude towards people in this context. For the field of EMI, most of the studies used to investigate attitude and perceptions towards instructors were carried out by using direct methods, such as attitudinal questionnaires, interviews (Inbar-Lourie & Donitsa-Schmidt, 2013, 2020; Karakas, 2017; Qiu & Fang, 2019), and also indirect methods, including VGT (e.g., Hendriks et al., 2021; Mu, 2020). In addition to what was used in these studies, the current study added an implicit measure from social psychology, as will be discussed in the following sections. Table 4.4 shows how these measurements helped to answer the research questions in this study.

Table 4.4 Methods used to answer research questions.

Research question	Research variables	Research methods
RQ1	Implicit attitude Explicit attitude	IATs questionnaire (attitudinal statements) + Interviews
RQ2	ICA	speech constructs Experiments
RQ3	The effect of attitudes on the ratings of ICA	Inferential statistics
RQ4-5	Demographic backgrounds as factors	Inferential statistics

4.3.2.1 Measuring implicit attitude

Chapter Three highlighted those previous methods used to measure attitudes directly and indirectly, including surveys, interviews, perceptual dialectology, the VGT and MGT, and, more recently, the social-psychological instrument, IAT. However, as mentioned previously, while MGT/VGT generates useful data, they tell us little about attitudes, particularly implicit (automatic) attitudes. As this research was designed to elicit implicit and explicit attitudes about NNES EMI instructors, and, as both students and those instructors belong to different nationalities, IAT was selected to be used jointly with self-report questionnaire. This tool was used for a variety of reasons: (a) particular concern was given to social desirability (or prestige) bias (Dörnyei, 2003; Garrett et al., 2003), in which students respond with the desirable and accepted responses, as this research is about their instructors, and thus, this research would fall under that category; (b) this research is situated in a socially sensitive area and near what is conceptualised as 'race,' and racial diversity of EMI instructors is very much present in Saudi universities (see Chapter Two). In view of the fact that research supports using IAT to reveal implicit attitudes, I decided to use IAT to examine the implicit attitudes of the students towards groups of NNES EMI instructors. Subsequently, in this research, a combination of both explicit and implicit attitudes measurements was implemented to provide a complete and more holistic picture of the participant's attitudes. Therefore, the current research measured both implicit and

explicit attitudes of the participants by using both IAT and self-reporting methodologies.

IAT structure

The IAT uses the reaction times, called latencies in the IAT studies, of participants to assess implicit attitudes. Judgements made through automatically activated evaluation are termed 'implicit attitudes' (Greenwald & Banaji, 1995). Implicit attitudes are measured by associative strength between the given pair of target categories and the associated pair of attributes. Association-compatible and association-incompatible means are provided for the given categories and attributes. To create the IAT, representative examples for a pair of concepts (targets) and a pair of attributes (positive and negative) are needed (Greenwald & Banaji, 1995; Greenwald et al., 1998). Each IAT involves seven stages or blocks. Stimuli can be visual (words or pictures) or auditory (recorded audio clips).

IAT in the current study: Stimuli and concept categories

For the present IAT study, participants were required to sort stimuli into categories. The concept's categories, which had not been employed in previous research, were chosen as being the least difficult and easily recognisable of several options for maintaining internal validity (Lane et al., 2007; Pantos, 2010). Since the NNES instructors from different countries were the target of the study, naming the countries helped respondents to recognise the instructors, for example, Saudi instructor, Egyptian instructor, and Indian/Pakistani instructor, all technically encompass instructors from different countries and can easily be identifiable. Concerning Indian/Pakistani instructors, it was preferred to be written in this form as most students did not distinguish between Indian and Pakistani instructors and generally perceived them as one. For the concept's stimuli, I used labels of words (typical names) rather than auditory clips, because students were familiar and aware of the pronunciation differences of each instructor under investigation in the context. In this research, the country of origin was used as a proxy of familiarity, and it was mentioned in the

information sheet before launching the research (see Appendix A4). The students were aware that the study was centred around their NNES EMI instructors from these countries (SA, Egypt, and India/Pakistan). They were very familiar with those instructors from these countries and used to learn and interact with them either at the university campus or in the wider society. Therefore, being familiar with them serves as a proxy students rely on when categorising instructors, and using typical names of Indian/Pakistani, Egyptian and Saudi as a stimulus would sufficiently achieve the desired purpose, which is sorting stimuli into categories. Moreover, the study was not interested in the phonological features of those instructors, thus including words instead of audio would do the required task.

The words used in the study are typical names from each nationality, which were used previously in many studies that employed IAT (e.g., Arendt & Northup, 2015; Ogunnaike et al., 2010; Todd & Pojanapunya, 2009, 2020). Typical names of each group of instructors included in the study were different from each other. In other words, Indian/Pakistani names are very distinct from Arabic names. Saudi and Egyptians are both Arabs and share similar names, particularly Islamic names. However, in Arab culture, there are some typical names associated with each Arabic country. For example, Saudis expect people with names such as *Sherehan* and *Bassent* to be from Egypt, and *Jasim* and *Yagoob* to be from Kuwait. Such typical names are used in the IAT to distinguish Saudis instructors from Egyptian instructors. Only female names were used because the study was conducted at a university where all students were female and taught by solely female instructors. The names used in the IAT are shown in Table 4.5.

Table 4.5 Names of non-native EMI instructors from different L1 backgrounds used in the IAT

Category labels (targets)	**Stimuli**
IN/P Instructor	Maharaja, Barizad, Harshita, Rajeev, Arshia
EG Instructor	Shereen, Bassent, Ayah, Sherehan, Safinaz
SA Instructor	Norah, Joharah, Hessah, Muneerah, Shaikhah

In addition to the concept stimuli, the IAT requires participants to sort attribute stimuli, in this case, words (adjectives) that denoted obvious positive and obvious negative teaching attributes, as shown in Table 5.6. Good (positive/pleasant) and bad (negative/unpleasant) attribute labels are well known in the IAT literature as they usually represent the opposite poles of semantic valence and usually range from 3-25 attributes (e.g., Greenwald et al., 1998). In terms of the current study, these positive and negative (teaching) attributes were developed and chosen based on the adjectives derived from interviews and focus groups.

The purpose of the initial phase of the qualitative method, as previously mentioned, was to generate these adjectives to construct the attributes of the IAT in the second phase of the quantitative method. It was deemed important to give adjectives that were relevant to the participants in the main study (i.e., teaching attributes) rather than merely present a list of arbitrary attributes that could be irrelevant to the target sample. In order to generate these adjectives, the participants in the individual interviews and focus groups were asked to describe their EMI instructors by providing as many adjectives as they could for each group of instructors. The adjectives were then collected and the most frequent were utilised to construct the IATs' attributes (for completed list of adjectives see Appendix B7). The adjectives collected from participants studying at University A in the first phase were deemed particularly suitable for inclusion in the second phase of the IAT experiment because these students were likely to have comparable attitudes regarding their NNES EMI instructors as their peers attending the same university, and hence the attributes developed were extremely likely to be prominent for the participants in the second phase. The participants in the interviews provided a large number of adjectives, 84 in total. However, several of the given adjectives were either generally similar (e.g., smart/intelligent) or opposites (e.g., fluent/not fluent). As a result, the most frequently used adjectives by the participants were chosen as stimulus attributes for the IAT in the second phase. Five adjectives were selected, and according to Nosek et al. (2005), 'selecting a small number of stimuli that are excellent representations of the target

category is superior to selecting a large number of exemplars that are weak representations of the target category to maximise construct validity' (p. 175). Table 4.6 shows the adjectives used in the current IAT.

Table 4.6 Positive and negative adjectives used in the IAT.

Positive adjectives	good accent, clear pronunciation, flexible, understandable, supportive
Negative adjectives	Bad accent, not clear pronunciation, not flexible, not understandable, not supportive

For the purpose of this study, there were three IATs because, as mentioned in Chapter Three, the IAT is created to measure the association between two binary target concepts (Greenwald et al., 1998) (e.g., Saudi instructor vs. Egyptian instructor), and that is considered as being one of its limitations. To overcome such limitation, researchers need to conduct multiple IATs. The current study was designed to measure three attitudinal objects—one IAT was created for each combination of instructors. The three combinations of instructors that were tested as attitude object dimensions are Saudi instructor vs. Indian/Pakistani instructor (SA_IN/P), Saudi instructor vs. Egyptian instructor (SA_EG), and Egyptian instructor vs. Indian/Pakistani instructor (EG_IN/P). There is always a risk of fatigue impacts as this measure requires concentration from participants (e.g., Bar-Anan & Nosek, 2014). This risk was minimised, however, by administering the tests online, which can then be completed in the respondents' own time and at their convenience. Each IAT took approximately 5 minutes to perform (Carpenter et al., 2019). IAT procedure involves a series of seven block tasks (Nosek et al., 2007), as shown in Table 4.7, and the total number of blocks for the three IATs was 21. Blocks 1, 2, 5 were used to train participants on how to respond to given stimuli, whether targets or attributes, and blocks 3, 4, 6, 7 were then analysed to generate the D-score (standard deviations of block 3 merged with 6 and block 4 merged with 7) (Carpenter et al., 2019). When the difference in means of the participants' reaction times to the two test blocks (4 and 7) were calculated, implicit attitude differences could be determined (Borton et al., 2007). In the following table,

there is an example of the 7 blocks and the targets used (e.g., Egyptian instructor and Indian/Pakistani instructor) and attributes (positive and negative).

Table 4.7 Illustration of how the IAT will be used in the study.

Blocks	Left	Right	Number of trials
Block 1	IN/P instructor	EG instructor	20
Block 2	Negative	positive	20
Block 3	IN/P instructor/negative	EG instructor/positive	20
Block 4	IN/P instructor/negative	EG instructor/positive	40
Block 5	EG instructor	IN/P instructor	20
Block 6	EG instructor/negative	IN/P instructor/positive	20
Block 7	EG instructor/negative	IN/P instructor/positive	40

IAT Procedure

Prior to the test being carried out, instructions were given on how to perform the test, with an explanation of the categories and corresponding items used (see Appendix A5). The procedure was to sort labels into positive and negative target attributable categories. Also, Indian/Pakistani instructor, Egyptian instructor, and Saudi instructor categories were sorted, associating the labels of the typical first names of each instructor in each variety.

All tasks were conducted on a computer screen in which individuals were required to allocate stimuli (in this case, typical names and adjectives, as illustrated in Tables 4.5 and 4.6) that appeared in the middle of the screen to one of two target categories (concepts and attributes) that appeared on the top opposite corners. For allowing distinction between attributes and concepts, attribute stimuli and attribute category labels appeared on the computer screen in a green font and concept stimuli and concept category labels appeared in black font (Lane et al., 2007). The procedures of each block in computer screens as they appeared to the participants are shown in the following sections with a screenshot of each block.

IAT's Blocks

The first block, as shown in Figure 4.3, was for learning the concept categories, for example, 'Indian/Pakistani Instructor' was displayed in the top right-hand corner of the screen, and 'Egyptian Instructor' was displayed in the top left-hand corner. As each stimulus (name) appeared in the middle of the screen, the student was required to allocate it to the category they thought appropriate by pressing I or E keys on the computer keyboard as the right or left-hand key, respectively.

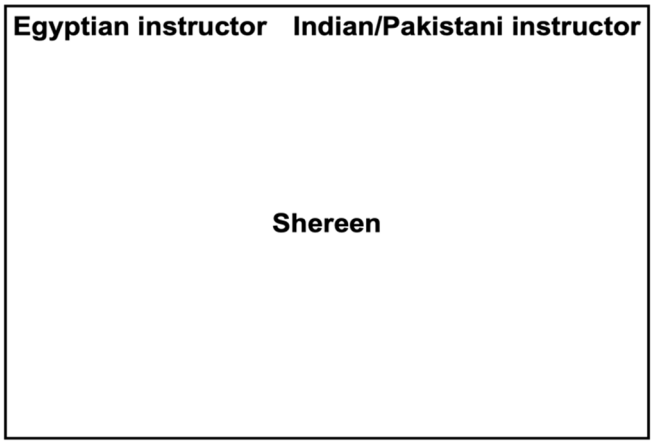

Figure 4.3 Block 1

A similar procedure was conducted for the second block, but this block was for learning the attribute categories—the attributes appeared on the opposite top corners. For example, the word 'negative' appeared in the top right-hand corner of the screen and the word 'positive' in the top left-hand corner. A word was presented in the middle of the screen, which would be either a positive or negative adjective, and the student was asked to allocate these adjectives accordingly by pressing the appropriate key. In both blocks (1 and 2) each stimulus was presented twice randomly.

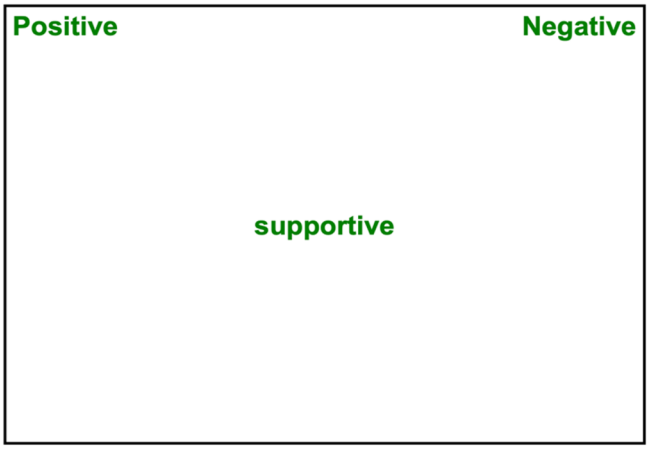

Figure 4.4 Block 2

The third task was a combination of the two first blocks, including both categories and attributes from the first two tasks. The concept, for example, 'Indian/Pakistani Instructor/negative' appeared in the top right-hand corner and 'Egyptian Instructor/positive' appeared in the top left-hand corner. By the same method, a series of stimuli appeared in the centre of the screen. The student was asked to press the appropriate left- or right-hand key depending on to which category they thought the word belongs.

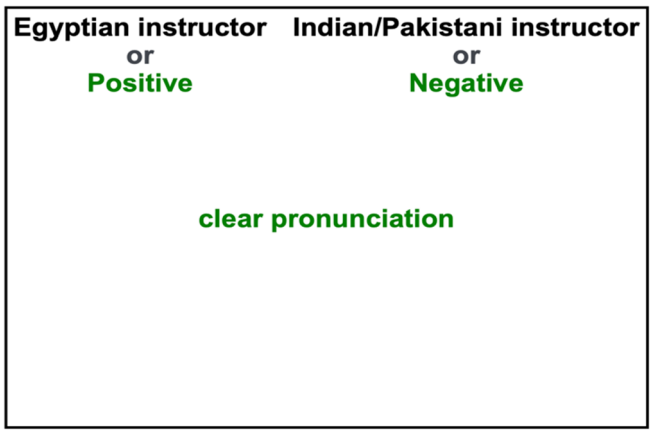

Figure 4.5 Block 3

A repeat of the third block with increased repetition of stimuli comprised the fourth block.

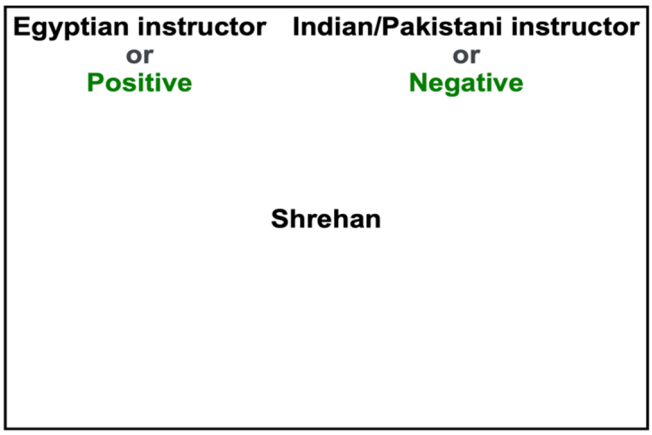

Figure 4.6 Block 4

The fifth block was a repetition of the first block with a reversal of the positions of the categories in the top corners of the screen, for example, 'Egyptian Instructor' changing position with 'Indian/Pakistani Instructor.' 'Indian/Pakistani Instructor' was displayed in the top left-hand corner of the screen, and 'Egyptian Instructor' was displayed in the top right-hand corner.

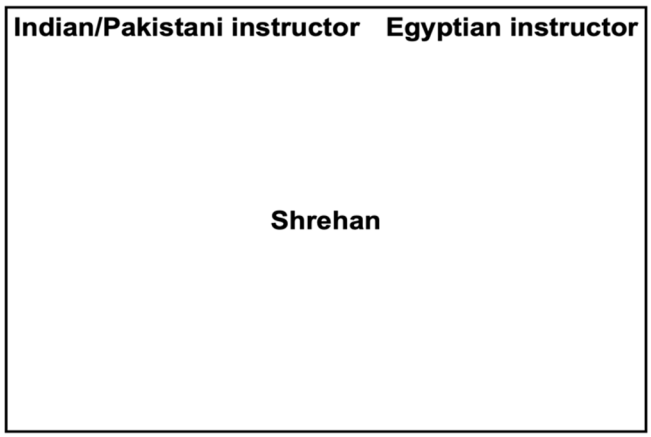

Figure 4.7 Block 5

The sixth block was a repetition of the third block, where, again, the categories in the top corners were reversed, with 'Egyptian Instructor/negative' and 'Indian/Pakistani

Instructor/positive' exchanging positions. In this case, 'Egyptian Instructor/negative' was displayed on the top right-hand corner and 'Indian/Pakistani Instructor/positive' was displayed on the top left-hand corner.

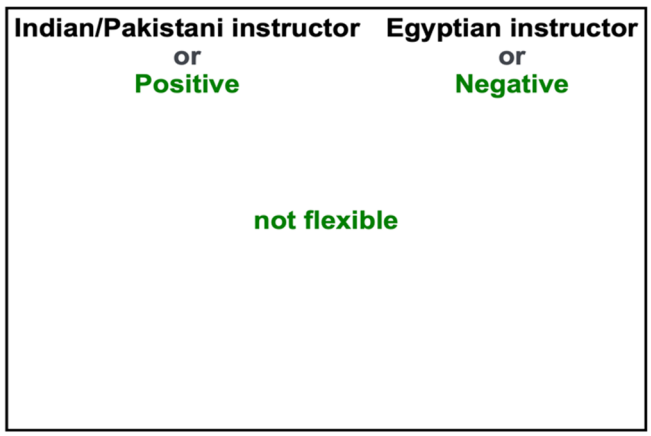

Figure 4.8 Block 6

The seventh task was a repetition of the sixth task but with the inclusion of more stimuli.

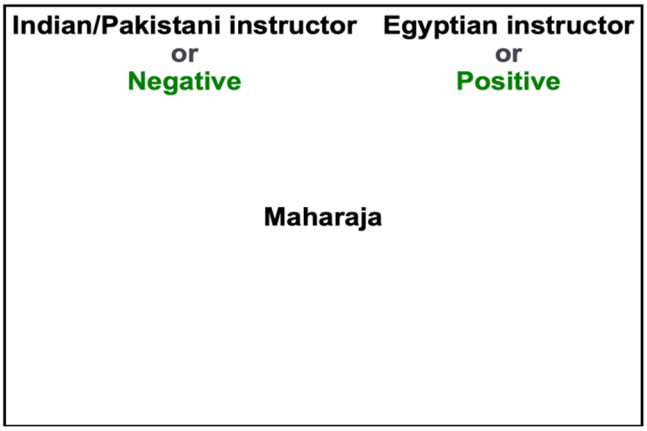

Figure 4.9 Block 7

Greenwald et al. (1998) observe that if the categories, such as 'Egyptian Instructor' or 'Indian/Pakistani Instructor,' are associated with the positive or negative attributes to differing degrees, it should be easier for the participant to decide on pairing reflecting the stronger association, the 'compatible' pairing. Participants are

considered to have greater positive associations, indicating a more positive attitude, with 'Egyptian Instructor' than with 'Indian/Pakistani Instructor' when they pair 'Egyptian Instructor' with positive, rather than when 'Indian/Pakistani Instructor' and positive are paired. The same is true if 'Indian/Pakistani Instructor' and positive are categorised more quickly. Quicker responses would be observed on association-compatible pairing for highly associated categories (e.g., Egyptian Instructor-positive) than less associated categories (e.g., Indian/Pakistani Instructor-positive). The IAT would indicate the implicit attitude by measuring the latencies between highly associated and less associated categories.[9] A D-score was produced for each participant based on reaction latencies and to analyse the IAT's effect, using the algorithm described by Greenwald et al. (2003).

4.3.2.2 Measuring explicit attitude

Self-report questionnaire

Since the aim of this study was to measure both implicit and explicit attitudes, besides the implicit method of IAT, the direct or explicit method with self-report was also used. As Chapter Three indicated, many previous studies focused and used solely indirect methods (VGT) (e.g., Hendriks et al., 2021) or direct methods with interviews and self-report questionnaires (e.g., Karakas, 2017). Thus, in order to address that and minimise the shortcomings of utilising one instrument, a self-report questionnaire was used to complete IAT and to allow the researcher to understand the explicit attitudes and the attitudes that cannot be measured through explicit self-report methods due to a social-desirability bias (e.g., Pantos, 2010).

In this study, the self-report questionnaires attempt to explore participants' explicit attitudes toward the same attitudinal objects that were the focus of the implicit measures (in this case, groups of NNES EMI instructors). This exploration was done

[9] For learning how IAT is operated, research group of Project Implicit (2011) has created this website (https://implicit.harvard.edu/implicit/takeatest.html) where numerous samples of IAT tests are available online.

by asking participants to respond to attitudinal statements by using the Likert scale. The development of self-report questionnaire statements was informed by the first phase of interviews and previous language attitude research (Hendriks et al., 2018; Ling & Braine, 2007; Moussu, 2006; Qiu & Fang, 2019). Emerging themes were first identified in the interviews and FGs, and these themes helped in the development of the constructs that were relevant to the study population. These constructs and their statements helped to reveal participants' explicit attitudes towards EMI instructors. The statements of these constructs were either developed from the interviews data or borrowed from previous research and modified to suit the context of the current research (see Appendix A6.1 for these constructs with their statements and the source of the statements). In the questionnaires, each statement was replicated three times for each group of instructors, with the instructor's nationality being stated each time. The total number of statements for the three instructors was 34. One statement was only stated once since it did not ask questions about a particular group of instructors but rather about NES instructors in general, and it was treated separately in terms of internal reliability. The questionnaires also included two open-ended questions. The first of these gave students a chance to list whatever words they used to describe their EMI instructors. The second asked students to contrast perceptions of NES instructors compared to NNES instructors, even though those students have little, if any, experience with NES instructors at the institution under investigation. The first open-ended question was repeated three times across the three attitudinal questionnaires for each group of instructors. The second open-ended question was asked once and placed at the end of the three attitudinal questionnaires.

For the attitudinal self-report questionnaire, Likert scales were employed. When utilising Likert scales, it is important to decide the number of scale points to include. A choice must be made between even and odd scale points. It is considered that an odd number of points allows respondents to give a neutral response, whereas an even number of points force the respondents to choose one option (Busch, 1993). The premise of neutrality, however, should be approached with caution, as respondents can utilise a midpoint rating to express confusion or that the question does not apply

to them personally (Garrett et al., 2003). Nonetheless, some researchers prefer to use a Likert scale with an odd number of points since it does not compel respondents to choose between the two extremes of the scale (Garrett et al., 2003). It is worth noting that both scales (odd and even) were piloted (Section 4.3.3) in the current study in order to determine which one was most appropriate for usage with the target population.

Although Likert scales can have a range of scale points from two to eleven, the optimal scale length for reliability is between five and seven (Johns, 2010). It may be easier to rate with fewer scale points, but a larger number has the benefit of offering flexibility in terms of opinion strength (Johns, 2010), and more variability in statistical analysis (Busch, 1993). To ensure a valid yet adequately sensitive measurement of attitude, a five-point scale was employed, with a rating of 1 denoting 'strongly disagree' and a rating of 5 denoting 'strongly agree.' Additionally, this allowed respondents to declare a neutral response in order to avoid being forced to make a choice and jeopardising data quality (Johns, 2010) as forced responses would lead respondents to give false responses. After three pilot studies, the questionnaire went through several versions before being finalised and sent out to the participants.

4.3.2.3 Speech perception experiment of measuring intelligibility, perceived comprehensibility, and perceived accentedness

One of the research questions of this study was to measure attitudes towards NNES EMI instructors, in which attitude is considered as one of the listener-related factors that can have an impact on speakers' ICA evaluations (e.g., Kang & Rubin, 2009; Lindemann, 2003; Rubin, 1992; Rubin & Smith, 1990; Sheppard et al., 2017). It was hypothesised that attitude is responsible for misperceiving speakers and decreasing the actual communication between listeners and speakers (Lindemann, 2003; Rubin, 1992; Rubin & Smith, 1990). The growing body of literature shows that attitudes indeed affect the L2 speech perceptions and evaluations, and they should, therefore, be taken into account when researching L2 ICA. To obtain a better understanding and a valid answer to the question of how NNES EMI instructors are perceived, it is

necessary to measure speech constructs alongside social connotations, such as attitudes (see discussions in Chapter Three). Additionally, the reliability of students' perceptions of those instructors as determined by subjective methods, such as interviews or questionnaire ratings, was worth comparing to the data from objective instruments, such as True/False statement judgments. Therefore, in this study, the three speech constructs were measured objectively (intelligibility) and subjectively (comprehensibility and accentedness), and in the later stages the impact of attitudes on these three constructs were investigated.

Intelligibility instrument

As with the studies discussed in Chapter Three, intelligibility measurements have been controversial. Intelligibility has traditionally been tested in two ways: an objective measure of how much a listener actually understands of an utterance, such as a transcription test, cloze test, or test based on True/False statement; or a subjective measure of how much a listener thinks that he/she understands a speaker of a given speech on a Likert scale rating. For the current research, the objective measure, that is, intelligibility was selected by adapting True/False statements (Munro & Derwing, 1995b). True/False statements were selected because they have been used by many previous reliable studies (e.g., Kennedy & Trofimovich, 2008; Munro & Derwing, 1995b; Munro et al., 2012), and they are empirically considered to be the second-best approach as predictor and the most reliable for measuring intelligibility (Kang et al., 2018). True/False statements were adopted from Munro and Derwing (1995b) who developed a set of single clause statements from common knowledge 'real-life context' that can be judged as true, such as 'some people have sandwiches for lunch' or false, such as 'April is the first month of the year' to indicate unintelligibility.

Within the Derwing and Munro framework, the most popular employed approach for measuring intelligibility is a transcription task, and this is often conducted in a language laboratory equipped with computers and headphones. In the current research intelligibility was measured without a transcription task. The study was first designed to be conducted in person, and the original version included a transcription task with

True/False statements where students needed to judge and transcribe these statements. However, due to the pandemic, this study moved from being conducted in person to online. The pilot showed that it was challenging to use transcriptions in the online version of the study and found that some participants were displeased with the study's length, and others did not complete the questionnaire (details of the pilot studies are given in Section 4.3.3). I, therefore, sought to find a technique that would be easier and more practical to implement than transcriptions, that is, the judging the True/False tasks without transcriptions. It is noteworthy to mention that the reliability of the True/False tasks without transcriptions was established based on the results of the main research of 110 participants, which matched the pilot study results with the transcription task. Students followed a similar pattern in judging the groups of speakers through the True/False tasks as they did while transcribing them, as shown in the following figures. Figures 4.10 and 4.11 below summarise the mean scores of the intelligibility transcription tasks employed in the pilot study and the True/False tasks in the main study.

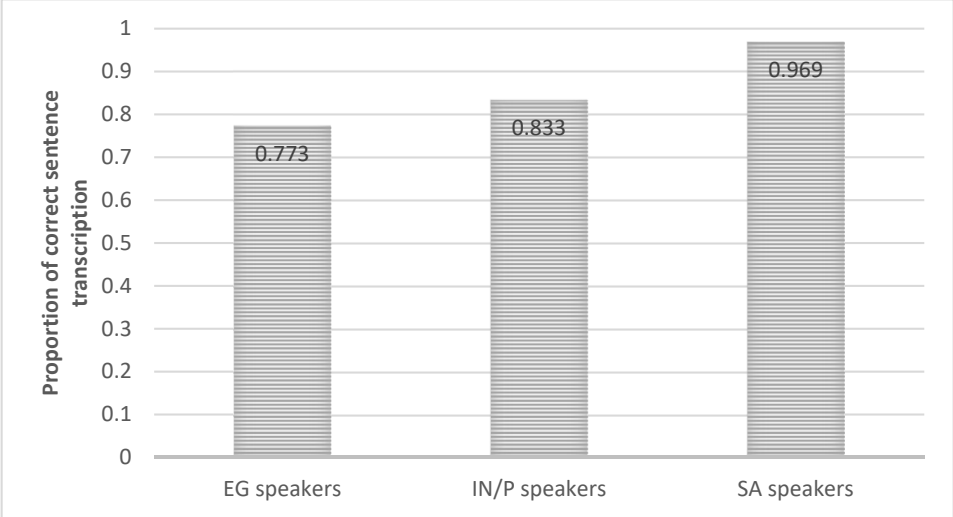

Figure 4.10 Comparison of intelligibility proportion means of keywords correctly transcribed in the pilot study by students as listeners for each speaker ($N = 26$)

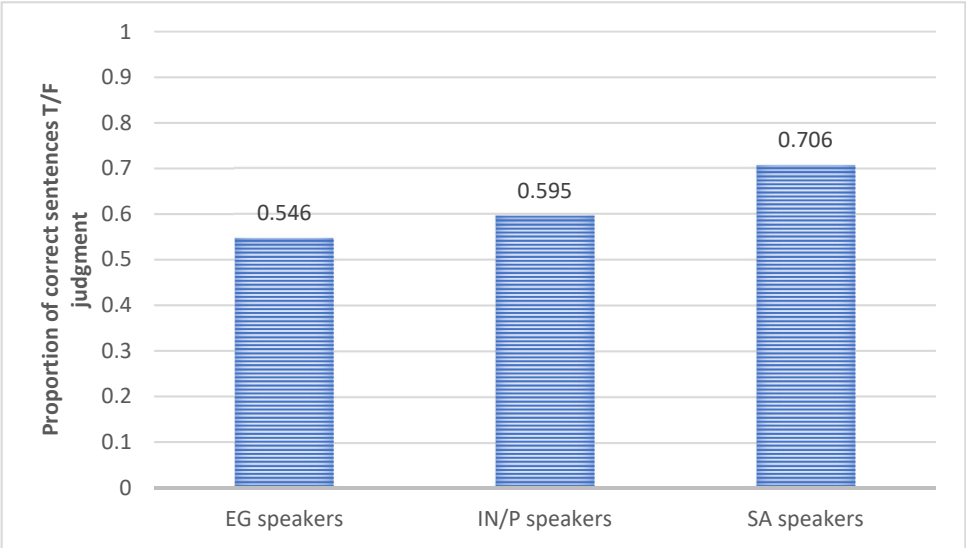

Figure 4.11 Comparison of intelligibility mean proportion of correct judgement of True/False statements without transcription in the main study by students for each speaker (N = 110)

Figure 4.10 shows the mean intelligibility accuracy scores of students' transcriptions for three groups of speakers. Higher values represent more intelligible speakers (SA speakers), with a mean of 0.96, followed by IN/P speakers, with a mean of 0.83, and EG speakers, with a mean of 0.77 (see Appendix A7.4 for an example of the transcription analysis of pilot study 2). The differences in the mean scores between speakers followed the same pattern as the main research results of 110 respondents, as shown in Figure 4.11 Students rated the SA as the most intelligible with a mean of 0.7, followed by IN/P with a mean of 0.59, and the last was the EG speakers with a mean of 0.54 (i.e., least intelligible). This offered further support to the reliability of the True/False tasks employed to assess intelligibility in this research. When the mixed effect model was run on the intelligibility scores of the main study (Chapter Six, Section 6.1.3.2), the country of origin was found to be significant. For the transcription task of the pilot, no statistical analysis was conducted.[10]

[10] The fact that the differences in intelligibility scores in pilot study are larger than the main study could indicate significant differences between speakers in terms of country of origin in pilot study.

Selection of stimuli of True/False statements

The literature review in Chapter Three revealed a vast array of differences in measuring intelligibility and the utilised speech samples in this construct. The methods used were various, ranging from subjective measures to objective ones, as well as the speech ranging from reading sentences, pronouncing isolated word list, and spontaneous speech. In this study, the objective methods of reading True/False statements adopted from Munro and Derwing (1995b) (see Appendix A7.3) was selected, and instructors were recorded reading these sentences in a real-life scenario at University A, where they are teaching rather than in a laboratory setting. The reason for recording in the university environment was because the researcher was interested in listeners' overall evaluations of the speakers rather than the word-level recognition or any problematic sound features they produced. The True/False statements were piloted first to ensure that the chosen lists were culturally suitable and familiar to the listeners and to avoid any ambiguity. A total of 40 sentences were selected and presented to 10 Saudi students to choose culturally suitable statements. Students were informed to select 24 sentences (12 true statements and 12 false statements). The final selection for the research was 12 sentences for six speakers where each speaker is finally allocated with four utterances (two true statements, two false statements), which means that each sentence is heard for one time only. The chosen sentences are shown in Table 4.8.

Table 4.8 Munro and Derwing (1995b) True/False statements selected by Saudi students.

True statements	False statements
1. Elephants are big animals. 2. Hot and cold are opposites. 3. Exercise is good for your health. 4. Red and green are colours. 5. Rice is popular in China. 6. Apples and oranges are fruits. 7. Some people eat corn flakes for breakfast. 8. Salad is a healthy food. 9. Most babies like to drink milk. 10. Some people like to watch television. 11. Planes fly through the air. 12. Most children like to eat cookies.	1. Dogs usually wear gloves on their feet. 2. People eat through their noses. 3. There are many cities on the moon. 4. Milk comes from a yellow chicken. 5. Many dogs like to smoke cigarettes. 6. Ice cream is very hot. 7. Some cows like to read books. 8. Sugar is good for your teeth. 9. Some people walk on their ears. 10. Adults are usually younger than children. 11. In the winter, the snow is green. 12. People play baseball with a piano.

Selection of speaker

The speakers were female and working as instructors at the university under investigation. They were from three countries SA, South Asia (India/Pakistan), and Egypt. These instructors were selected because they are the dominant nationalities who are teaching content courses in most universities in SA (see Chapter Two). The study did not include NES as a control group because the Saudi students who took part in the study had no prior experience with NES instructors, and hence their responses would be speculative. Listeners might also assess the NNES speech based on the differences between them and the NES samples, rather than on their intelligibility or comprehensibility (Rajadurai, 2007). In addition to that, researchers (e.g., Flege & Fletcher, 1992) have found that listeners tended to evaluate NNES speech samples as more accented when there were NES samples included, compared to judgments of stimuli without NES speech samples. Therefore, the NNES instructors only were included. For the selection of speakers, a colleague to the researcher, who worked at University A helped to recruit speakers. Those speakers were representative of what students encounter in their classroom's context. The

speakers were informed about the purpose of the research, and their demographic information, language and academic background were collected (see Appendix A7.1). The speakers were asked to record in a quiet place at University A. Each speaker was given four sentences (two true, two false) to read (see the speakers with allocated sentences in Appendix A7.2). They were given time to practice and ask questions before recording. The speakers were provided with a card showing the sentences. When speakers made a mistake or hesitated, they were asked to repeat and read the sentences for a second time. The audio length of the six speakers was 1 minute and 11 seconds. Derwing and Munro (1997) asserted that the length of speech files is of limited importance, and the present study sought a shorter time to avoid exhausting the listeners and compromising the reliability of the ratings. These audio files were embedded into the listener instrument using the Qualtrics platform tool and presented to listeners with the perceived comprehensibility and perceived foreign accentedness scales, as well as attitude statements and a section that elicits demographic information.

The recordings were evaluated by NES and native Arabic experts to judge the accents of the speakers. The NES is an expert in Indian/Pakistani accents and the typical features associated with this accent. The Arabic (lecturer in linguistics) is an expert in Saudi and Egyptian accents and the associated features with these accents. The two speakers of each nationality had nearly similar degrees of foreign accentedness. The following table (Table 4.9) presents details about the speaker's age, native language, country of birth, level of education, and length of teaching in SA.

Table 4.9 Background information of speakers.

English Variety	Country of Birth	Native language	Age	Level of education	Length of teaching in SA
Indian	India	Urdu	41	Master	5 years
Pakistani	Pakistan	Sindhi	36	Master	5 years
Egyptian	Egypt	Arabic	34	Doctoral	1 year
Egyptian	Egypt	Arabic	46	Bachelor	More than 7 years
Saudi	Saudi Arabia	Arabic	32	Master	5 years
Saudi	Saudi Arabia	Arabic	23	Bachelor	1 and 3 months

Comprehensibility and perceived accentedness

The most widely used tool for perceived comprehensibility and foreign accentedness is the perceptual measures obtained by the Likert scale, which subjectively measure the level of understanding speakers and their perceived foreign accent. Choosing the appropriate scale point is necessary to consider when using a Likert scale, and this varies depending on studies. For instance, in Munro and Derwing's studies (1995a, 1995b, 1999), Munro et al. (2006), Sheppard et al. (2017), and Ballard and Winke, (2017) used a nine-point scale, whilst Saito et al. (2015) applied a 0-to-1000 rating scale. Nevertheless, Thomson (2018) notes that although rating scales have varied in past studies, the length of the scale has 'little to no impact' (p. 20). Therefore, this study used the most widely used scale, a nine-point scale for measuring comprehensibility and perceived foreign accentedness of instructors in the Saudi context. Students were required to circle a number from 1-9 where (1 = very difficult to understand, 9 = very easy to understand). Perceived foreign accentedness was measured with a similar scale from 1-9 points, ranging from 1= very strong accent to 9 = no accent, as shown in the following screenshot from Qualtrics (Figure 4.12)

Figure 4.12 Screenshot of perceived comprehensibility and perceived foreign accentedness scales from Qualtrics questionnaire.

4.3.2.4 Demographic information

To investigate students' implicit, explicit attitudes, and assessments of instructors' speech in terms of ICA, several other individual demographics questions were asked. Comprehensive demographic and background information, the key to a better understanding of participants' responses was collected. This information could be easily obtained using a questionnaire, and participants were required to complete the questionnaire of demographic information. The demographic information included age, gender, the longest period of time they have spent outside SA and where, attended English institution, attended schools before enrolling university, year of study at the university, major, level of English proficiency, experience with EMI instructors, and media consumption per hour weekly. The demographic variables address a few of the many potential factors that may influence students' attitudes and their perceptions in terms of ICA towards their EMI instructors, as discussed in previous literature (Chapter Three).

The variables chosen for this study include English proficiency level, major, academic year, and media exposure to English and Arabic media. They were employed as independent variables or 'predictors' in subsequent regression analysis. The first three

variables were chosen because they fall under Gardner's (1985, 2010) classic socio-educational model's category of 'individual differences.'[11] These factors merit consideration in the current investigation due to their positions in key theoretical models. The fourth factor, media exposure, was taken into account in determining the attitude towards EMI instructors in this context. Media could be regarded as a powerful tool in shaping views and attitudes that individuals hold toward other people, notably minorities and their accents, often mocked as indicators of 'ignorance or lack of sophistication' (Munro et al., 2006, p. 68). Television shows and films can reinforce such views and associate unfavourable preconceptions with speakers who have certain accents (see Lippi-Green, 1997). Even people who are apparently welcoming of variety may have latent prejudices and biases against specific forms of accented speech shown in the media and their associated social stereotypes (Munro et al., 2006). In the present study, media exposure questions (Arabic and English media) were included because they might influence how students evaluate different EMI instructors from various cultural backgrounds. The inclusion of Arabic exposure vs English exposure can serve as a proxy for more Arabic-focused or outward-focused orientation and accordingly may have impact on their evaluations to Arab and non-Arab instructors.

The second reason for incorporating these factors is the need for replication in different contexts, and Macaro and Akincioglu (2018) call for 'deeper investigations into these variables in other and different socio-economic and cultural contexts' (p. 256). Baker (1996) points out that even minor changes to the input component might result in major changes to the output; therefore, 'research on bilingual education needs to be replicated in as many different social and educational contexts as possible' (p. 344). Even though it would be more desirable to explore a broader range of variables

[11] Gardner's classic socio-educational model's category of 'individual differences' was developed to show the effects of individual differences in attitudes and motivation on second language achievement. The model is part of a larger framework that is divided into four sections: the social milieu, individual differences, acquisition (learning) context, and outcomes (see Gardner, 1985, 2010).

related to evaluators, this study concentrated on examining the factors above in order to make the responses of Saudi respondents relevant.

4.3.3 Pilot studies

Before main data collection, the research instruments were piloted with a similar group of students who were not involved in the main study. In this current research, the piloting stage of the study was conducted in three pilot studies, as shown in Table 4.10.

Table 4.10 Detailed timeline of pilot studies.

Stage	Date	Place	Number of participants	Instrument	Time (in minutes)	Feedback
Pilot 1	March 2020	University of Edinburgh (computer laboratory)	12 (10 PhD and 2 Master) students	Experiment + Questionnaire	55-70	Oral + written feedback
Pilot 2	April 2020	Saudi Arabia (Online)	26 undergraduate students	Experiment + Questionnaire	55-70	Written feedback
Pilot 3	May 2020	Saudi Arabia (Online)	21 undergraduate students	Experiment + Questionnaire	35-45	Written feedback

4.3.3.1 Pilot study 1

Once the questionnaire was produced, a first pilot was conducted in March of 2020 in a computer laboratory at the University of Edinburgh to verify that all the necessary issues were covered and also to ensure that the questions were meaningful and made sense to students. Twelve postgraduate (10 PhD and 2 Masters) Saudi students who were studying and living in Edinburgh volunteered to participate in the pilot study. All participants studied their undergraduate in SA and had been taught by NNES instructors similar to those included in the study. Although the participants were not identical to the target population, the pilot was carried out to get feedback about the layout, the format, and the content of the study. The study was in English, and

participants were aware that they were pilots, and their proficiency in English was high enough for them to notice questions that they did not understand, questions that they felt did not belong, or questions they considered crucial and should be included.

The majority of the participants provided feedback on the study's duration, which could exhaust the actual participants, notably the intelligibility question, which requires participants to transcribe speech samples in a standard orthography and rate them as True/False. Other feedback concerned the scale of the measurement, the scale used was a 4-point scale (strongly disagree, disagree, agree, strongly agree). The participants believed that the scale forced them to provide answers they were not sure about and would not be able to give what they really felt. In addition to that, they suggested translating the questionnaire into Arabic for maximum understanding. Regarding the IAT, participants provided no feedback as they believed the instructions were clear. Based on the participants' comments regarding the Arabic translation, changes were made, and the study was translated and piloted with second listeners from the target population (undergraduate students) who also provided written feedback.

4.3.3.2 Pilot study 2

The second pilot study was conducted online in April 2020, to ensure that the study made sense to the target population. In order to conduct a second pilot study, I contacted instructors from the target university on WhatsApp and asked them to look for volunteers from classes using EMI that they were teaching to participate in the study. Each instructor had a contact with her students via WhatsApp. We created a group for the study and all students participated on a voluntary basis. Twenty-nine undergraduate Saudi students (19 from medical college and 10 from computer science) from the target university volunteered. However, not all students completed the study, so they were removed, and the total number of participants was 26. The participants were aware that it was a pilot study and had been told to write their feedback regarding any parts of the study, similar to what was done with the first pilot study. The study was sent to them in a PDF sheet including four Qualtrics links along

with the information about the study. Three links were for the three IATs, and one link included the speech constructs experiments (i.e., intelligibility True/False transcriptions, Likert scale of perceived comprehensibility, and perceived foreign accentedness), attitudinal questionnaires and demographic information. Furthermore, I joined the WhatsApp group for any further clarifications they might need.

Two main changes were made following the results of the second pilot study. First, to add a 'neutral' box and to reduce the time needed to complete the questionnaire. The participants of this pilot also found the 4-point scale forced them to choose a response that might not reflect what they really feel. They also found the length of the study, particularly the transcription section of the intelligibility True/False transcription task, to be quite exhausting. Indeed, it was discovered that the three participants who did not complete the study began responding to the study until they reached the task of intelligibility, at which point they stopped responding. Furthermore, some of the students who transcribed the sentences, they did not judge the sentences as true or false or vice versa.

Therefore, A decision was made to include a neutral point (i.e., 'not sure'), to not compel the respondents to express views and attitudes in cases where they had no opinion (Brown, 2001). Additionally, the transcription task of intelligibility was eliminated, leaving only True/False judgments. This decision was taken based on the comments from the two pilot studies, to shorten the length of the study and because the study was more concerned with how students evaluate their instructors and the relationship between their attitudes and their judgments of the three speech constructs than with word-level recognitions.

4.3.3.3 Pilot study 3

The third pilot study was also conducted online in May 2020 and followed similar procedures to pilot study 2 in recruiting participants. Twenty-two undergraduate Saudi students from the target university volunteered. One of them did not complete the study and thus the total number of the participants was 21. The participants were

aware that it was a pilot and had been told to write down any feedback regarding any parts of the study, similar to what was done with previous pilot studies.

From the previous students' feedback, the length of the study was shortened, and it took them from 35-40 minutes, which is shorter than before, and this was seen as helping to reduce participants' fatigue. The intelligibility task of True/False statements were all completed, and no more feedback was received. After incorporating all of these revisions, the final study were generated (see Appendixes A6.4 and A6.5 for the final versions of the entire study (Arabic and English) exported from Qualtrics). To ensure that the attitudinal questionnaires were reliable and valid, I conducted reliability measures to the final attitudinal questionnaires' responses by using Cronbach Alpha as represented in the following section.

4.3.3.4 Reliability and validity of the research attitudinal questionnaires

When conducting questionnaires, it is important to take into consideration the need for being aware of factors that can influence the quality of obtained data and affect validity and reliability. Validity refers to 'the extent to which there has been an approximation of truth' (Osborne-Daponte, 2008, p. 86), that is, the questionnaire measures what it was intended to measure (Pallant, 2005). For the questionnaire of this study, its validity is partially determined by the studies from which the current instrument drew (Hendriks et al., 2018; Ling & Braine, 2007; Moussu, 2006; Qiu & Fang, 2019). Since some of the items were slightly changed, a panel of three experts (including my supervisor) reviewed the first version of chosen constructs, along with the research questions and the statements, to ensure the content validity of the instrument. This validity was accomplished by reviewing the questionnaire with my supervisor for feedback, including suggestions, additions, or deletions of the questionnaire items. The questionnaire was also checked by another two experts who considered issues of clarity, length, number of statements, and validity of the constructs and statements. The findings from the pilot studies prompted the evolution of the questionnaire through several versions and helped to ensure the validity of the questionnaire instrument. After these processes, it became obvious that some

statements were too general, too vague, too complex, or simply too many for a single project, especially given that these statements were repeated for each instructor, and thus the initial list of statements was trimmed. The final version of the questionnaire was also translated into Arabic to maximise comprehension (see Appendix A6.4 for Arabic version). The researcher translated the questionnaire into Arabic, then to ensure the accuracy of the translation, a bilingual colleague (Arabic and English) with a PhD in translation studies at a Saudi University checked the translation and performed the back translation of the Arabic version into English. These procedures are believed to have resulted in the validity and reliability of this research design.

Reliability indicates how free the research is from random error. In this research, internal consistency was used to test the questionnaire's reliability. In other words, the degree to which all the items in a questionnaire measure a certain characteristic (Drost, 2011). Internal consistency can be calculated by using different measures. The most popular is the Cronbach alpha test. The Cronbach alpha was developed in 1951 to provide a measure of the internal consistency of a test or scale; it is represented as a number between 0 and 1. The minimal level of a questionnaire's reliability to be regarded sufficient is a level of 7 (Nunnally, 1978, as cited in Pallant, 2005). For the final version of the questionnaire, reliability analysis was calculated for each construct of each instructor in the questionnaire, and it showed acceptable reliability (see Appendix A6.2). For the overall questionnaires, reliability analysis was also calculated separately for each group of instructor's questionnaires. Cronbach's alpha showed that the questionnaire yielded an acceptable reliability alpha, indicating that the respondents were reasonably consistent in their evaluations, as shown in the Table 4.11.

Table 4.11 Alpha score for each group of instructors included in the study

NNES EMI instructors	Alpha Reliabilities
EG instructors	.830
IN/P instructors	.822
SA instructors	.712

4.3.4 Administration of main data collection

The study was intended to be completed in person in a computer lab to guarantee that students would take the study seriously, to ensure that participants understand the instructions clearly and without confusion, and to avoid any source of distraction. However, due to the pandemic of COVID-19, the plan changed, and the study had to be conducted online. The study was completed online using Qualtrics, a research tool provided by the University of Edinburgh. Using an online questionnaire and employing Qualtrics appeared to be a more efficient method during the COVID-19, when the teaching process was conducted entirely online, and no students attended the university. This particular tool enabled the inclusion of IATs, speech samples, and the questionnaire. Finally, the software allowed the collection of responses to be exported to Microsoft Excel for organisation and then imported into SPSS for analysis.

Respondents were recruited for participation in the present study through contacting English and content instructors in the target university on WhatsApp. Both instructors (English and content) asked the students who studied subjects using EMI in their virtual classes to participate in the survey. This resulted in three WhatsApp groups for these disciplines: the Medical College, Computer Science College, and Applied Science College. I sent the information sheet to each group, which included the instructions and the purpose of the study as well as a set of tasks using Qualtrics' links, that is, three links for the three IATs tests and one link for the speech constructs experiments, attitudinal questionnaires, and demographic information together. Moreover, when students opened these Qualtrics links they found also thorough instructions on how to complete the tasks. Approximately 110 undergraduate Saudi female students from various majors have participated voluntarily (more details on the sample size in Chapter Six). The data collection process began in the 2020-2021 academic year and lasted for around four and a half months. Various techniques, including addressing instructors and asking them to encourage their students to

participate in the study, and addressing students and emphasising the research's benefits and importance, were utilised to increase participation (Cohen et al., 2011). In spite of my efforts, the responses were lower than I anticipated, and this is considered as one of the drawbacks of online studies (e.g., Dörnyei & Taguchi, 2010).

All tasks were translated into Arabic to ensure that the participants read and understood the questions and instructions very carefully. Before starting to participate in the online study, respondents were provided with a participant information sheet and a consent form, and after clicking the consent button, they could proceed to conduct the main study. To minimise any unexpected data destruction, collapse, or errors, the tasks of the IATs tests and the task of speech constructs and the questionnaire were divided among four Qualtrics links. Each IAT was accessible via three different Qualtrics links, while the speech constructs experiments, the self-report attitudinal questionnaire, and demographic data were all bundled together and were accessible via another Qualtrics link. Participants had the option of starting in any tasks they preferred to since the order of implicit and explicit measures does not have an influence on their results (Nosek et al., 2005).

For each Qualtrics link, after recording their answers to each set of questions, participants were expected to click to continue to the next link. Responses in the tasks of speech perception experiments, the self-report attitudinal questionnaire, and demographic data were made compulsory so that respondents could not move on to the next question until they had answered the previous one. By doing so, the number of unanswered questions could be reduced.

The IATs were designed to be conducted online. Carpenter et al. (2019) verified that 'survey software IATs appear to be reliable and valid, offer numerous advantages, and make IATs accessible for researchers who use survey software to conduct online research' (p. 2). Additionally, multiple publications have demonstrated that IAT can be administered just as effectively over the Internet in participants' homes as it can in a normal laboratory setting (e.g., Houben & Wiers, 2008), supporting the feasibility of participants completing IATs in their own homes. The participants needed to do

three IATs in three Qualtrics links for each combination of the instructors, that is, IAT1 (SA_IN/P), IAT2 (SA_EG) and IAT3 (EG_IN/P). After consenting to participate in the online survey and before beginning to answer the IATs online, participants were given detailed instructions in Arabic on how to conduct the test (see Appendices A5 and A5.1).

For the speech experiment, the task started with general information about the study and the rating process's instructions. Participants were informed that they would listen to six speakers (two Saudis, two Indians/Pakistanis, two Egyptians) producing True/False statements in English. Listeners were instructed to hear each speaker twice and judged the value of the statements as true or false. After that, each speaker was given a rating on a 9-point scale on the degree of the perceived comprehensibility and the degree of perceived foreign accent.

In the next task, respondents were encouraged to rate each NNES group of instructors through the self-report questionnaires that were composed of attitudinal statements on a 5-point Likert scale. They were also encouraged to provide qualitative comments to the open-ended questions by describing their instructors in three words. The last open-ended question was about their preferences for being taught by NES instructors.

In the last task, participants were required to provide personal background information concerning age, gender, major, etc. In case the participants had any questions, comments, or inquiries regarding the online survey, they were encouraged to get in touch with the researcher.

5.4.1 Online Survey: Potential issues and challenges

It is worth noting that some possible difficulties may arise when a study is administered online. First, the researcher has no control over the distractions that occur while respondents are responding to the survey. Given that education had shifted to being more online based, which could potentially reduce students' enthusiasm for engaging in more online activities, the length of the online survey had been carefully designed through multiple pilot studies to account for possible fatigue

effects that could have confounded the responses. The average time required for participants to complete the survey was 35-40 minutes, which was deemed sufficient time to complete answering the study's tasks with the entire focus.

4.3.5 Overview of statistical tests used in the data analysis

The quantitative responses collected from Saudi students required descriptive statistics and inferential statistical tests to analyse the data. Following previous research on the attitudinal questionnaires in EMI (e.g., Curle et al., 2020a; Kamaşak et al., 2021; Şahan & Sahan, 2021), in implicit attitude studies (e.g., Carpenter et al., 2017, 2019; Greenwald et al., 2003), and in speech perception studies (e.g., Kennedy & Trofimovich, 2008; Munro & Derwing, 1995a,1995b, 1999), the statistical package for social science (SPSS), R Core Team (2021).

In the current study, the Likert scales, which are considered ordinal data, were used in the attitudinal questionnaire and the evaluations of PC and PFA. Sullivan and Artino (2013) state that parametric tests can be used with ordinal data if the sample size is sufficient, and the data are normally distributed (or nearly normal). In this study, the sample size was adequate, and the data were normally distributed and nearly normally distributed. In the case of data that are not normally distributed, Norman (2010, as cited in Sullivan and Artino) asserts that parametric tests tend to provide the correct results even when statistical assumptions—such as normality of distribution—are violated, even to a great extent. The researcher also adds that the parametric tests not only can be used with ordinal data like the data obtained from the Likert scale, but also that parametric test are more robust than non-parametric tests. Therefore, parametric tests were used in the current study for conducting the inferential analysis. The following sections presented the statistical techniques used in data analysis per research question. To facilitate discussion of the inferential statistics, the conventional statistical significance cut-off level ($\alpha = .05$) was applied.

RQ1- Do Saudi students hold different attitudes (implicit and explicit) towards Arab NNES and non-Arab NNES instructors who teach content courses using EMI? And (if any) why?

The first question was about whether Saudi students hold different attitudes towards their NNES EMI instructors. For students' explicit attitudes in the attitudinal questionnaire, the analysis included frequencies and percentages, central tendency measures (mean and median), and variability measures (standard deviations). The first step of analysing the Likert-type items in the attitudinal questionnaire was measuring the total mean score for the scale constructs (Sullivan & Artino, 2013). The second step of analysis was calculating the mean, median, and percentages for each item in order to look more closely at how students evaluated their EMI instructors per construct.

Since students had multiple responses to the three groups of instructors, a linear mixed effect model (LMEM) using the lme4 package in R was used to solve the problem of the 'independence of observations' assumption, one of the essential assumptions for conducting linear regression, and was violated by repeated measurements of subjects. The LMEM means allow for examining the association between a fixed factor (e.g., country of origin) and dependent variables (attitude) while modifying the results for the effects of random factors. As opposed to fixed factors, random factors may show variance even when other factors remain constant. For example, in the case of the variable attitude, where other factors may be equal, but the attitude of the participants may change when the country of origin changes in the questionnaire.

Implicit attitudes were measured by using the automated web-based tool[12] iatgen, which provided both creation and analysis of IAT on-screen menus (Carpenter et al., 2017, 2019). The tool was developed to follow similar analysis to that of Greenwald et al. (2003) in which they used the latency (i.e., response time) that is measured in milliseconds (ms) and recorded as the response data for each individual in

[12] https://iatgen.wordpress.com/about-iat/

categorising stimuli as D-score. Carpenter et al. (2019) provided extensive details of how the iatgen tool analyses the results as well as evidence for the validity of this tool by examining its correlations with other established reaction time programmes. They reported that their Qualtrics-based IAT using iatgen provided nearly identical results as other more established reaction time software programmes. The score generated from the IAT is referred to as the D-score. It is calculated by dividing the difference obtained from the two test blocks (Blocks 4 and 7)[13] for all participants by the standard deviation of all the latencies in both blocks (Carpenter et al., 2019). This method of measuring D-score is similar to Cohen's *d*-measure of effect size; however, the difference between them is in the calculation of the denominator's standards of deviation (see Greenwald et al., 2003). For this research, the IATs produced three D-scores that determined the implicit attitudes of participants towards the three combinations of groups of instructors. The iatgen tool also conducts a within-person t-test to indicate if the D-scores are significantly different from zero. The tool also provides information about the drop count (participants with reaction times below 400 ms or had more than 10% of their responses above 10,000 ms), error rate, timeout rate, internal consistency estimates, standard deviation, and the calculation of 95% confidence interval (CI) around the difference between the D-score. A figure is provided in Appendix C2 with a screenshot of iatgen tool analysis as an example.

D-score is a score between -2 to +2 and indicates the direction of association or bias, in this study, attitude towards instructors. A strong association is $D > 0.5$, a moderate association is $D > 0.35$, and a weak association is $D > 0.15$. A positive score indicates the associations to Target A, and a negative score indicates the association to Target B, and a score of zero indicates no preference. More about D-score is presented in Chapter Six.

[13]According to Carpenter et al. (2019), 'within-person difference scores are calculated using each participant's block means—once for practice combined blocks (blocks 3 + 6) and once for the critical combined blocks (blocks 4 + 7). These are divided by their inclusive standard deviations (i.e., SD of "block 3 merged with 6" and SD of "block 4 merged with 7"), generating two scores per participant. These are then averaged, creating a single D-score' (p. 13).

RQ2: How do Saudi student listeners rate EMI instructors in terms of intelligibility, perceived comprehensibility, and perceived foreign accentedness?

The second question was about how students rated the three speech constructs of the three groups of speakers. The analysis of the three speech constructs were conducted using central tendency measures (mean), variability measures (standard deviations), and confidence intervals. The analysis of intelligibility task was obtained by counting the number of correct judgements. The highest score that the listeners could obtain was 4. An error in judging the sentence was defined as a misunderstanding of statements present by the instructor's speech, that is, the L2 speech (e.g., Kennedy & Trofimovich, 2008; Munro & Derwing, 1995b; Munro et al., 2012). For example, if a listener correctly judged three sentences, the score for this listener was 3/4, or 0.75. The scores were then averaged across all speakers from each nationality for each listener to indicate the student's intelligibility scores for speakers from each nationality and then the average for all listeners. For example, the two Saudi speakers' intelligibility scores were averaged for each listener and then also the averages were calculated for all listeners to obtain the students' intelligibility score of Saudi speakers.

Similar procedures were followed with the Likert-type scales for perceived comprehensibility and foreign accentedness. Both were calculated by measuring the means of listener for all speakers from each nationality and then the overall average. For example, the two Egyptian speakers' scores were averaged for each listener and then the average for all listeners of Egyptian speakers.

Since students have multiple responses to the three groups of speakers, LMEM was used in R using the lme4 package. The LMEM means allow for examining the association between a fixed factor (e.g., country of origin) and dependent variables (ICA) while modifying the results for the effects of random factors (subjects and speakers). As opposed to fixed factors, random factors may show variance even when other factors remain constant, for example, in the case of intelligibility, where other

factors may be equal, but the intelligibility of the participants may change when the country of origin changes in the experiments.

RQ3- Does the presence of students' attitudes affect their ratings of intelligibility, perceived comprehensibility, and perceived foreign accentedness of EMI instructors?

The third research question was about the potential impact of attitude on the ratings of the three speech constructs. To address this question, the research analysed whether there is a relationship between attitude and intelligibility, perceived comprehensibility, and perceived foreign accentedness of the three groups of speakers. Pearson correlation tests were used in order to find the correlations between the aforementioned variables.

RQ4-5: What demographic factors affect Saudi students' implicit and explicit attitudes towards EMI instructors? What demographic factors, besides attitudes, affect Saudi students' ratings of ICA of EMI instructors?

This research aims to investigate the explicit and implicit attitudes of Saudi students towards EMI instructors and their assessments of those instructors in terms of three speech constructs, that is, intelligibility, perceived comprehensibility, and perceived foreign accentedness. To allow the researcher to understand what might stand out behind these attitudes and assessments of EMI instructors, demographic variables were analysed as independent variables. SPSS software was used to run multiple regression analysis, which is suitable because it could help to determine which of the demographic variables have significant contributions to the students' evaluations. The regression predicts the effect of the independent variables on listeners' ratings on the dependent variables of attitudes (i.e., implicit, and explicit attitude) and the three speech constructs for each group of instructors. All the predictors (English proficiency level, major academic year, and media consumptions) were entered into the models simultaneously. For implicit/explicit attitudes, six regression models were run, three models for each pair of IAT, and three models for each attitudinal questionnaire of

each instructor separately. For the three speech constructs ICA, nine regression models were run, three models (per group of speakers) per construct. To verify the validity of the regression analysis, several assumptions were checked before doing the multiple regression. A full description of assumptions is detailed by Laerd Statistics (2020).

4.3.6 Ethics considerations

Ethical issues and research ownership play a significant role in shaping the research design and are critical components to address when conducting social studies, particularly qualitative methods, as they place a greater emphasis on participants' personal and private realms, that is, personal perspectives, sensitive concerns, and information (Punch, 2005). For this study, the ethical consideration was to ensure that voluntary informed consent, anonymity, confidentiality, a right to refuse/withdraw at any time/stage of the study, ownership of the data, and minimisation of the risk to the participants are maintained (Cohen et al., 2011, 2018; Dörnyei, 2007).

The qualitative strand of this research commenced with participants being informed about ethical standards and the risk assessments of the study. They were given an information sheet with detailed information on the research project following the institutional guidelines of the University of Edinburgh (see Appendices A1 and A3). Participants were informed that their data would be utilised anonymously throughout the study and that pseudonyms would be used to avoid revealing their identity when reporting the findings.

For the quantitative data collection that was conducted online, consent forms were included in the four links of the study. An initial ethics consent page informed participants that the survey would remain completely anonymous, and that the data collected would only be used for academic purposes, such as for a doctoral thesis, publications, or conference presentations. In order to take part in the online survey, participants should first click a checkbox confirming their approval to participate in

the research. Through providing informed consent, the participants fulfilled the requirements condition, and they were able to start the study.

4.4 Chapter summary

This chapter has provided detailed descriptions of the research methodology and the various data collection procedures used in the current study, as well as an explanation of why they were chosen. It has shown how a mixed methods approach can yield a multifaceted picture of students' attitudes and perceptions in the Saudi context. The research methods were chosen for this study in recognition of the multidisciplinary nature of these concepts. The chapter has demonstrated that the approaches utilised in this research are complementary, allowing the researcher to look at large entities from a variety of angles. The chapter has also discussed the sampling techniques, research instruments, and data collection procedures. The chapter ended by presenting the data analysis tests employed and the ethical consideration obtained for the current research.

In the next chapter, the first phase of the study, which is the qualitative method analyses, will be presented

Chapter Five: Qualitative Findings

In Chapter Four, the rationale for adopting the mixed methods approach was presented. The qualitative output was used to design the instruments of the quantitative section. This chapter presents the first phase of mixed methods, that is, the qualitative findings of individual interviews and focus groups. First, it explains the aims of analysing the qualitative data. Following that, the findings of the interviews data from selected students are presented.

5.1 Aims of the qualitative phase

According to the exploratory mixed methods design of this research, the quantitative data has greater weight than the qualitative data obtained through the individual interviews and FGs. The qualitative data collection and analysis, which was performed as a preliminary phase were specifically used to generate content for the quantitative instruments, that is, the implicit test (IAT) and attitudinal questionnaires. For the implicit test, interviews were used to capture the most frequent adjectives used by participants to describe instructors, in order to use them as attributes in the IAT tests. For the explicit questionnaires, interviews were used to capture constructs for investigating students' attitudes towards their NNES EMI instructors (as detailed in Chapter Four). In addition to the demographic factors in the quantitative data, the qualitative data reflect students' attitudes and experiences with their NNES EMI instructors in more depth. It allowed members of the target population to present their views, which can provide insights and identify the factors that underlie students' attitudes.

5.2 Main identified themes

I initially analysed and presented the data from individual interviews and FGs separately. However, as the findings emerged, it became apparent that the differences were not significant enough to warrant discussing each instrument separately. The same questions were asked to the respondents in the individual interviews and FGs;

both approaches revealed equal perceptions of EMI instructors, with no discernible differences. In light of this, it was determined that presenting them in two chapters would be redundant. This encouraged me to combine the two tools into a single set of analyses and treat them as such, paying special attention to the FGs' interaction dynamics, and presenting the results under shared themes in the present chapter (Chapter Five).

When combining and presenting the findings, the data from interviews were distinguished from the data from FGs by using the letters I and F to refer to respondents, respectively. For example, I.RAN refers to respondents from individual interviews data, and F.HAN refers to respondents from FGs data, which were drawn from a separate sample. After implementing the analysis of the individual interviews and FGs (see Chapter Four, Section 4.3.1.2), several patterns emerged, as illustrated in Table 5.1.

Table 5.1 Themes and subthemes that emerged from four interviews and two focus groups with students.

1) Attitude towards NNES EMI instructors
• She can (not) speak Arabic • She has clear accent and pronunciation • I like her teaching quality • It is not about nationality
2) Students' further needs
• Suggestions for instructor's recruitment

5.2.1 Theme 1: Attitude towards NNES EMI instructors

The 'attitude towards NNES EMI instructors' theme was labelled as such as it was characterised by participants' experiences of interacting with their instructors. Different kinds of attitudes appeared while interviewing students; some students seemed to have negative perspectives of non-native instructors, and others talked more positivity about their instructors. The theme can help the understanding of the

factors underlying the students' attitudes as the function of their experiences in learning with NNES EMI instructors. Throughout interviews, respondents talking about instructors they encountered as mainly Saudi, Indian, Pakistani, Egyptian, and Sudanese. It might be worth noting that the interviewees' attitudes towards NNES instructors and their accents have been established through encountering representatives of each English variety of those instructors. Exposure can involve either communicating with instructors at university level or with the populations of diverse nationalities within the participants' wider society. The emerged codes for this theme will be organised and discussed under the four subthemes discussed below.

5.2.1.1 Subtheme 1: She can (not) speak Arabic

During the interviews, participants highlighted advantages and disadvantages of having Arabic-speaking instructors while discussing their experiences. Therefore, it was determined that dividing students' perceptions based on Arab and non-Arab instructors was more appropriate for the purpose of analysis.

a) Arab instructors

Arab instructors received favourable attitudes in content courses, especially as the interviewees noted that Arab instructors share the same first language and culture, and this facilitates communication between the two parties. When speaking about Arab instructors, they mean Saudi, Egyptian, Syrian, Jordanian, or Sudanese instructors. However, the focus would be more on Saudi and Egyptian, as most students had experiences with them due to their dominance in the Saudi tertiary context. Respondents believed that Arab instructors are best for them because they can provide students with greater assistance in the process of learning. By sharing the same mother tongue and cultural backgrounds, respondents think that Arab instructors could better explain the content courses by switching into Arabic, if necessary, better communicate with in terms of discussing educational issues, and offer help in the learning process, for instance, the fact of their ability to ask questions for clarification in Arabic when studying with Arabic instructors. However, this is out of the question

with Indian/Pakistani instructors due to the different languages. The following comments speak to these issues:

Extract 1

I.RDA: The positive thing is that her (Egyptian instructor) mother tongue is Arabic, and this eases the communication with her.

I.RAN: Yes, so if I encounter a problem, I can communicate with the instructors easily. I do care that the doctor is speaking Arabic particularly in other courses more than in English courses because I need a complete understanding of what I am studying not only passing the exam, you know some times there are particular points that need further explanation to be completely understood, and that would not be possible by using English only, the instructor's Arabic language will help me in that, I mean the instructor is using Arabic also.

Among Arab instructors, there is also a preference for one group of instructors more than others. The respondents noted that Saudi instructors' sympathy for their students' individual problems is the key aspect in which local instructors are superior to other groups of instructors. Saudi instructors were found 'easy to deal with them,' and this could indicate that students feel more comfortable speaking openly with Saudi instructors about their personal or educational issues than with Egyptian instructors. Participants believed that Saudi instructors would facilitate communications more easily, and during their education, students used to learn from Saudi instructors, particularly in public schools, and hence have greater familiarity and comfort with this group.

When respondents talk about Egyptian instructors, they also talk about accents or pronunciations (see Section 5.2.1.2) and Arabic background and expertise, which may explain why Egyptian instructors received contradictory perceptions. Respondents displayed an adverse attitude towards the accent and pronunciation of Egyptian instructors, but at the same time they appreciated their L1 and praised their expertise. With regard to Arabic background, Egyptian instructors can switch into Arabic in content courses, and even change their accents into a Saudi accent, to increase the comprehensibility of a given material, and that was expressed below in the comment by I.ATH in Extract 2. Egyptian instructors switching into Saudi accent could show

that the instructors are aware that they are negatively perceived by students because of their accents.

Extract 2

I.RAN: I can communicate with them (Saudi instructor) easily if I encounter any problems, it will not be difficult, and I do not need to translate as we share the same language.... Because it is easy to deal with them and we have the same language, and she would help me if I encountered a problem. For example, if I have non-Saudi instructors, it would be difficult for them to understand why I am having this problem, but with Saudi instructors, it is easy for me to make them understand and accept my point of view easily.

I.ATH: They change into Arabic and Saudi Arabic, they do not speak their Arabic accent to make us understand, they explain English but insert Arabic to help us understand what they are saying.

The inclination towards Arab instructors was also revealed in the question of instructors' recruitment. When students were asked from which background (nationality) they would choose to recruit their instructors. The selected Arab instructors were Saudi instructors who were placed on the top of the list, followed by Egyptian (and Syrian) instructors, and the last were Indian/Pakistani instructors. Discussion around the topic of hiring instructors tended to be informed by the instructor's Arabic background. The justification of this arrangement was explicitly stated by I.RDA and I.RAN: 'they can speak Arabic.' I.RAN's response of 'maybe Indian' showed that she was not confident to add Indian to the list of instructors. In general, she seems satisfied with the Arab instructors and believed it would be better if the recruiting was restricted to Arabs only within Arab countries. This is demonstrated by her comment, 'my choices of Arabs based on language; they can speak Arabic,' as shown in Extract 3.

Responses suggested that Saudi university students believed that Arab instructors offered advantages in some respects over non-Arab instructors, that is, Indian/Pakistani instructors. Arabic background seems to be an essential factor, and a bonus that Arabic instructors had. For I.RDA, a clear preference is shown for hiring solely Saudi instructors because it is a 'Saudi university.' This could indicate that students do not have a view of their university as an international university because

most of the universities in the Saudi context are locals. This could result in increasing the preference for locals since students have little experience with international students and instructors.

After that came other instructors, but they should be from Arab countries. It appears as a vital issue for I.RDA to have instructors from Arab countries to the extent that she would prioritise Arab instructors over NES instructors, which might suggest that learning the language for her is not as important as learning the subject material and successfully acquiring the content of the lecture. Her demotivation to learn with NES may also show her anxiety of learning with NES because Saudi students' English proficiency is considered relatively low.

Extract 3

IN: Well, if you have given the decision to recruit instructors whose nationalities are you going to choose? and why?

I.RAN: from non-Saudi I could employ Egyptian, or Syrian, or maybe Indian.

IN: What are the reasons for your choices?

I.RAN: My choices of Arabs are based on language; they can speak Arabic.

I.RDA: As a Saudi and in Saudi university, I would hire Saudi instructors and then I may consider others … from Arabs, I would employ Egyptians, and after that, British and American or, whomever, those whose mother tongue is English, and the last choice is Indians

IN: Why Arabs first?

I.RDA: I mean Egyptian instructors because they speak Arabic and will help me if I encounter problems in understanding specific terms by translating them.

On the other hand, this was not the case for respondent I.ATH, who responded negatively towards Arab instructors, particularly Egyptian instructors. She revealed harsh opinions against Egyptian instructors, even preferring to hire Indian/Pakistani instructors over Egyptian instructors, because of the Egyptian instructor's 'very bad accent.' This respondent seemed to use accent as a criterion for evaluating the Egyptian instructors. The question about recruitment was open to choosing from different nationalities; however, most students limited their choices from NNES instructors around the typical nationalities, 'as usual,' of Saudi, Egyptians, and Indian/Pakistani.

Extract 4

I.ATH: As usual, Indian and Egyptians…. I feel Indians are better than others, Egyptians have a very bad accent.

I.ATH: they have problems with their accent, they change words' pronunciations completely and pronounce them in their ways, the Egyptian ways…. I do not like them and their ways of speaking English, honestly, I do not like them. So, it is not good.

Among Arab instructors, Egyptian instructors usually elicited ambivalent responses among interviewees. Despite the positive views about the Arabic background of Egyptian instructors, a negative orientation towards Egyptians also emerged. F.NJL, who seems to have a strong voice among her peers, placed Egyptian instructors at the bottom of the hierarchy along with Indian/Pakistani instructors. Her decision was based on the Egyptian instructor's English language, which she believed would not help students to improve their own English. However, F.NJL, at the same time, agreed that even though the Egyptian instructor's English was not perfect, she still has positive qualities, such as an Arabic background and knowledge of the subject. This perception was also shared by her peers, and the favourable stance is built on the solid knowledge and the 'nice environment' the Egyptian instructor created inside the classroom. F.HAN's comments as well as F. FTM's, when she said 'dafour', relate to the stereotype about Egyptian instructors as being funny, humorous and intelligent as previously discussed in Chapter Two. The discussion around Egyptians shows how students were negotiating the qualities of those instructors. It was interesting to see that subsequent to F.NJL's point about content instructors, F.FTM's contribution to the Egyptian instructors' advantage, seems to have led the rest of the group to agree on that point. Once again, despite the ambivalence, the general opinion is that while Egyptian English is problematic, their solid knowledge is very much appreciated as commented upon below:

Extract 5 (FG1)

F.NJL: If I arranged them from the bottom, Indian will be the last and also Egyptians, Egyptian accent would not improve my language; instead, it would make it worse. Yes, I agree they translate into Arabic and have knowledge but as language no.

F.HAN: Me, too about the language but she can switch into Arabic in case we do not understand.

F.SAR: She is talking very fast.

F.FTM: According to our experience, Egyptians are the best as they have the knowledge in their specialty.

F.HAN: They create a nice environment in the class and sometimes use Arabic to clarify difficult concepts.

F.SAL: Indeed.

F.NJL: They almost know everything and are good at everything even if it is not their speciality, they are either knowledgeable and super perfect or they know nothing; they do not do in-between positions.

F.SAL: They are excellent

F. FTM: I would say intelligent, (dafour)

On the other hand, respondent I.AMR took a different position and appeared to prefer the use of English all the time, and this might not be possible with Arab instructors. I.AMR considered the use of Arabic inside the classroom as a negative aspect of Arab instructors because doing so would not give the students the chance to improve their English language. The following comments speak to this issue:

Extract 6

I.AMR: The negative thing is when she (Saudi instructor) speaks Arabic and explains in Arabic and in the exam, we just memorise and recall back information to pass the exam. I think there is no benefit from that.

I.AMR: The negative of Egyptian instructor is similar to Saudi instructor, which is using Arabic in the class. I would like to benefit from their English language to improve my own language.

Despite a few negative comments about Arab instructors, students generally had a positive attitude towards them. This can suggest that identical L1 appeared to be an advantage of Arab instructors since it enhances students' comprehensibility and communication within and outside the classroom.

(b) Non-Arab instructors

It seems that there was agreement among students about their perceptions of non-Arab instructors. When speaking about non-Arab instructors, it means Indian/Pakistani instructors in particular because this group of instructors is the dominant one in the Saudi context. Indian/Pakistani instructors, from the Saudi students' points of view,

had pros and cons in distinct areas. There were several reasons put forward about why Indian/Pakistani instructors had not been preferred and frequently received negative attitudes in content courses. The first aspect about devaluing Indian/Pakistani instructors, which is repeatedly echoed, unsurprisingly, is the unshared language and that is regarded as a barrier, which impedes communication between the two parties and reduces the learning process, particularly if students' English levels are low. In addition to the different L1 of Indian/Pakistani instructors, speed, accent, and pronunciation together were the most repeated reason for disliking non-Arab instructors. Accent and pronunciation will be discussed later in Section 5.2.1.2. Relevant to this section, Arabic was vital because Arab instructors are considered to provide clearer explanations and enhance students' understanding via students' first language. This gives Arab instructors merits over non-Arab instructors, that is, Indian/Pakistani instructors. The following comments speak to this issue:

Extract 7

I.RDA: It is OK to me because I can communicate with her (Egyptian instructor), you know what I mean because of Arabic and speaking the same language, you can exchange ideas freely more than Indian. Indians, you know, are speaking English all the time, and this complicates the communication between us, unfortunately.

I.RDA: It is terrifying because of the different language as well as the accent itself, which is not clear. Therefore, I have that feeling of how I will follow and understand her, and how I will ask her to repeat something if I do not understand.

Extract 8 (FG1)

IN: What are the reasons for not understanding the Indian instructor other than accent?

F.WAL: Speed.

F.MAR: Pronunciation.

F.FTM: Arabic instructors are sometimes explaining to us in Arabic in case we do not understand certain information but with Indians, we cannot especially if there are difficult terms.

F.NOH: Indeed, Arabic instructors are explaining difficult content in Arabic, and this is really helping but is not possible with Indian.

In Extract 9, respondents show their struggles with non-Arab instructors, and F.RAW indicated how it was hard for her to understand and communicate with those instructors, and this point was also reiterated by the rest of the groups. F.BYN's explanation of the process of how to communicate with non-Arab instructors can

show how they depend on L1 to have a normal conversation with their instructors. For those respondents 'it is a shock to be with non-Arabs,' particularly when they were in their first year when their English proficiency was relatively low and consequently led to difficulty in communication, a point that was returned to several times. Students attributed their dilemma of understanding non-Arab speakers to their poor levels of English. It seems likely that English proficiency and comprehensibility of accents are adversely associated. In other words, listeners with a high level of English proficiency may not be concerned about a non-native accent. This discussion around the topic of Arab instructors when a participant declared 'They are supposed to speak Arabic,' even though this goes against the policy of EMI. This, however, demonstrates that it is common for Arab instructors to teach content subjects in Arabic.

Extract 9 (FG2)

F.RAW: I had been with Indians before. I swear I understood nothing, and we even could not communicate.

F.LAM: Being with Indians will complicate my understanding of the given material.

F.REH: It is really hard to talk with her (Indian instructor), for example, discussing our marks, she will not understand, she cannot speak Arabic.

F.BYN: We are at different levels of proficiency in English. There are, for example, fluent students and others are not. There are some students who knew little in English. Therefore, it is a shock to be with non-Arabs in our first year. They are supposed to speak Arabic, so when we come to talk with them about our marks or anything else, we do have to look for an excellent and fluent student to communicate our messages to the instructor. Thus, we explain to this excellent student what we want her to deliver to the instructor. Then this student goes to the instructor, but the instructor shuts her up and says, 'you cannot talk on behalf of them, if they want anything, they have to come and talk to me by themselves.' OK, I will talk with you, but I cannot speak English.

On the other hand, there was an advantage of having Indian/Pakistani instructors. I.ATH highlighted the usefulness of Indian/Pakistani because they speak English all the time, allowing for improving students' English. I.AMR considered reliance on Arabic as a drawback of Arabic instructors and recognised the benefits of Indian/Pakistani instructors for the same reason of promoting the idea of being involved in an English-speaking environment in order to help students to improve

linguistically. This might suggest that the Saudi respondents' motivations for improving their linguistic skills when studying the content subjects can also impact their attitudes towards EMI instructors.

Extract 10

I.ATH: Fast, not clear, speak English all the time, and this is helpful to learn English.

I.ATH: They do not speak Arabic, and that helps to strengthen our language. Saudi instructor speaks English with more Arabic, so we do not learn a lot but with Indians; we learn more English as she speaks English all the time.

I.AMR: The negative of Egyptian instructor is similar to Saudi instructor, which is using Arabic in the class, (with Indian), I would benefit from their English language to improve my own language.

The comments reveal that overwhelmingly the participants preferred Arab instructors, that is, Saudi, and Egyptian instructors to a certain extent, at least in comparison to other non-native, non-Arab instructors such as Indian/Pakistani instructors. The shared L1 is clearly an essential factor for most students who seem to be heavily dependent on Arabic to understand the content subjects. Their attitudes were likely driven by the existence of this attribute in EMI instructors. Although this does not necessarily free them from negativity towards Arab instructors in other certain traits.

5.2.1.2 Subtheme 2: She has clear accent and pronunciation

The theme of accent and pronunciation led students to discuss this topic at length with a negative undertone in every individual interview and FG. Students' discussions of the accent and pronunciation of NNES instructors can show how expectations of accent can affect evaluation of the NNES EMI instructors. In this research, the extensive availability of these diverse nationalities in the Saudi context led to all interviewees identifying certain characteristics that distinguished each nationality from others and resulted in those instructors receiving different attitudes. Therefore, this subtheme is divided according to each instructor's nationality for the purpose of analysis. Each will be discussed in turn.

a) Saudi instructors

Though responses revealed that Saudi instructors were considered the most preferred instructors when compared with other instructors, they were still criticised for accent and pronunciation. Predominantly students showed favourable attitudes to this group of instructors, who were more exposed to them during the previous stages of education than others. Positive adjectives and expressions were applied to the accents of Saudi instructors, such as 'clear,' 'better,' 'close to us,' 'helpful,' 'good,' 'flexible,' 'intelligible,' and 'friendly.' On the other hand, I.ATH despite her strong preference for those instructors, still criticised the accent as being a 'thick' accent. The way participants combined these seemingly contradictory characteristics is very intriguing where solidarity adjectives like 'friendly' are mentioned with 'clear,' which is not normally part of solidarity. From an insider's perspective and having a similar background, it is very likely that students used 'clear' compared to other NNES accents, while 'thick' compared with the NES.

I. RAN, interestingly, mentioned 'easy exams,' which might indicate that even if an NNES instructor's English is not perfect, her relaxed exam policies may be one of the factors in students' preference for this instructor.

Extract 11

I.RAN: I will be happy as they (Saudi instructors) are very close to us.
I.RAN: Clear accent and explanation, intelligible, easy exams. Regardless of educational issues, easy to deal with, accept others' opinions …
I.ATH: Clear, friendly, thick pronunciation…. I prefer very very much, and I will be very comfortable, kind, understandable.
I.AMR: Saudi because her pronunciation is better than others, and I will be able to understand her.

When the Saudi accent was compared with other groups of instructors' accents, it was the clearest and the most comprehensible to students compared to the accents of Egyptian and Indian/Pakistani instructors. Saudi instructors' perceptions and their ability to deliver courses at a slower speaking level than Egyptian and Indian/Pakistani instructors, who were usually seen as quick speakers, boosted positive attitudes about this set of instructors. Despite students' criticism of Saudi instructors' accent and

pronunciation as being ‘wrong pronunciation,’ or ‘thick accent’, it is still understandable and clear and is referred to as ‘shared accent.’ A similar justification is also used by I.RAN, in her expression ‘she has the same accent as me,’ which could indicate the proximity the students feel towards Saudi instructor and how sharing an accent can increase the level of attitudes to that variety of English. Students elaborated on these issues below in Extract 12.

Extract 12

I.AMR: Saudi is understandable, not fast, not slow in the middle and sometimes wrong pronunciation.

I.AMR: The positive thing is that her accent is understandable and clear. Communication will be more accessible because of shared accent and culture.

I.RAN: Saudi accent is the best because it has the same accent as mine, and the rest are similar, no difference to me between them.

I.RAN: I will be happy because it is easy to understand the accent as we shared similar accent, and easy to deal with her and I do not have to be angry or annoyed when I found at the beginning of the semester that my instructor is Saudi.

The positive perceptions by students of their local instructors were not entirely consistent. Critical expressions towards Saudi instructors were also evident. Even though they could relate to the Saudi accent, students were aware that outsiders may judge it harshly. Students shared their concerns mostly about the accent and pronunciations of Saudi instructors and displayed negative feelings toward their own local accents, mainly for the same reasons: that they are thick and wrong pronunciations. Students are apparently disapproving of the Saudi accent but simultaneously acknowledging that it is unrealistic to eliminate it. Members of the group found the Saudi accent was a Bedouin accent, since people speak English with accents mixed with their own dialects. Bedouin people in SA are usually those who live in the rural areas; some of them moved to the urban areas, and they brought the accent with them. Describing the accent as Bedouin suggests how the accent is also influencing how instructors, particularly the Saudi, are perceived. It shows how students tended to create a hierarchy even within their own accents and sounding Bedouin in Arabic is not on the top of this hierarchy. Students perceived the way Saudi instructors speak as being specific to Saudi people since they can easily be

identified, with articulation of the /v/ as /f/. Asserting this point, the following participants considered articulating this pronunciation in this way and speaking with certain local accents a wrong usage of the English language. At the end of the discussion, they reached an agreement that individuals need to improve their accents. They seemed to adopt this standpoint due to the reasons for viewing the native models as a standard and an indication of a 'proper English,' as shown in the comments below:

Extract 13 (FG1)

F.FTM: Frankly, no, I do not like it because the local accent is clear, and this is a flaw. They speak English with more Bedouin Arabic accent to the extent when you hear it; you will immediately recognise that this person is from the Gulf region. I like the one who speaks proper English and tries to break the accent.

F.HAN: Most of the Saudi instructors produce /v/ sounds as /f/.

F.NJL: I noticed.

F.SAR: Even my dad who studied in America pronounced /v/ as /f/.

F.HAN: Because it does not exist in Arabic sounds.

F.FTM: One needs to improve him/herself to be better as much as s/he can.

F.HAN: Just like Egyptians in changing /θ/ into /s/, we are Saudis changing /v/ into /f/.

F.NJL: For me, I would like to learn all accents and then choose the accent depending on the interlocuter.

F.NOH: Indeed, with Indians, I need to use the easiest and clearest accent.

It can be concluded that despite students' preferences for Saudi instructors, critical comments about accent and pronunciations do apply. Some students showed concerns about the negative impact of instructors' pronunciation problems on their learning experience.

(b) Egyptian instructors

The perceptions of Egyptian instructors differed, and that seems to be attributed to (a) the Arabic background and (b) the Egyptian instructors' accents. On the one hand, the respondents preferred Egyptian instructors because Arabic is a shared language between them. As previously mentioned, respondents found that switching into Arabic was useful in facilitating communication and understanding the content

material. On the other hand, the accents of Egyptian instructors and their incorrect pronunciations of particular sounds caused downgrading in the positive responses towards them, and they were considered as negative features of Egyptian speech.

Students referred to Egyptian instructors' accents as 'hard,' 'funny,' and 'bad.' I.ATH revealed harsh opinions towards Egyptian instructors. She attached the accent with negative descriptions, such as 'unintelligible,' 'fast,' 'not clear,' 'change of pronunciations,' and referred to the instructor's English as 'Egyptian's pronunciation.' Her responses, along with I.RAN, were clearly showing that Egyptian instructors were not their preference. This kind of feeling might also have existed among other students on the university campus, and I.ATH was just one reporting case.

Extract 14

I.RAN: I feel it is funny.

I.ATH: (Egyptian instructor) unintelligible, fast, not clear, change of pronunciations…. we do not want to learn Egyptian's pronunciation…. They have problems in their accent, they change words' pronunciations completely and pronounce them in their ways, the Egyptian ways.

Likewise, the group discussion showed agreement in their negative perceptions of Egyptian instructors. Participants appeared to support each other's expressions against Egyptian instructors. F.LAM's mocking attitude is indicated by her laughing at their accents 'when they are talking,' and the strength of this perception is also reinforced by her peers. F.REM classified the Egyptian instructor as a fast speaker and regarded that as a barrier to comprehensibility. F.MAN expressed her unfavourable attitudes towards the Egyptian instructor's accent without offering justification. The students' perceptions of Egyptian instructors' accents are possibly based on their production of Arabic where characteristics of Egyptian Arabic pronunciation influenced their English accents, and Saudi (or even any native Arabic people) easily recognised Egyptian accent (see Chapter Two, Section 2.4).

Extract 15 (FG2)

F.LAM: I cannot hold myself from laughing when they are talking even if it is something serious.

F.REH: I have no experience with Egyptian instructors.

F.REM: Basically, they are fast speakers in Arabic, and when speaking English, they are speedy, and with their English accent this sometimes would make it difficult to cope and understand what she is saying.

F.MAN: I do not like their accent.

The interviews were able to offer clear reasons for students' attitudes towards Egyptian instructors. In Extract 16, F.HAN offers examples of Egyptian instructors' mispronunciations. She discussed how Egyptian instructors sometimes mispronounced the content terms. Instead, they articulated content terms in their own Egyptian accent and changed sounds such as /θ/ and /ð/ into /s/, which eventually caused confusion and unintelligibility. Students worried that their pronunciations may be influenced by the instructor's pronunciation. Again, they referred to the Egyptian and Indian accents, which they considered the most unintelligible, as an example of this claim. F.NJL explained the strategies students used for enhancing their comprehensibility. They used written material (a textbook) as a guide to promoting their understanding. F.FTM proposed a strategy of constant exposure for increasing the level of understanding. This is interesting because it suggests a genuine issue with intelligibility; on the other hand, they seemed to be coping. Students appeared to get more comfortable with an instructor's English and lecture-style as the course progresses. It seems as though students were leaning heavily on familiarity as a factor contributing to intelligibility. That is, via regular exposure, students become adapted to the variety of accents they commonly hear, resulting in increased intelligibility and comprehensibility in understanding different instructors.

Extract16 (FG1)

F.HAN: Even Egyptians changed / θ/ and /ð/ into /s/. In our first lecture, there was a doctor who pronounced (growth) to be (gross), and I was confused, and I understood nothing.

F.NJL: We think a gross infection.

F.HAN: Or something disgusting, and we do not understand.

F.FTM: But with much exposure and a lot of classes with her, then we get used to her and understand what she means.

F.MAR: When we read the lectures, we understand what she says.

F.NJL: If we followed them on the written material and listened at the same time, then we will know what they mean.

F.FTM: Then it becomes fine as we used to their ways.

F.NJL: And also pronouncing the word just like her (gross).

Students and students' attitudes towards this group of instructors are clearly ambivalent. Although there is an awareness of the negative influence of Egyptian instructors' English, students seem to adopt a variety of strategies to cope with Egyptian instructors. This is intriguing because of the question of whether such coping strategies are possible with Indian/Pakistani instructors.

(c) Indian/Pakistani instructor

When discussing the different nationalities of non-native EMI instructors, the negative orientation was towards Indian/Pakistani instructors in all interviews. 'Indian/Pakistani accent' and 'negative' were coded together several times (Appendix B3). When Indian/Pakistani instructors were described, the accent was emphasised as problematic, and students concentrated on stigmatised features. The Indian/Pakistani instructors were perceived to be unlikable, and negative comments were produced by the respondents based on (a) their quick speech and their strongly accented English, which made the words sounds 'different,' and hence difficult to understand; and (b) the failure in communication because of the absence of shared L1 between the two parties. Students identified Indian/Pakistani instructors as fast speakers, among other factors, and directly linked that with their dislike of this group of instructors.

Extract 17

I.ATH: They are fast, not clear, speak English all the time and this is helpful to learn English …the negative about them is that we do not understand them, they speak quickly, and they swallow some sounds and speak with an Indian accent.

I.RDA: It could be her (Indian) accent, quick speech and maybe inability to communicate the content easily, all-cause difficult understanding.

I.AMR: Fast, unintelligible, and hard to follow.

Respondents labelled the Indian accent as 'the worst accent' and expressed negative remarks mostly related to pronunciation. Students claimed that the pronunciations of Indian/Pakistani instructors were interrupting their understanding. Mispronouncing

particular content terms in a given material, a point they returned to later in the group discussion, triggered unfavourable attitudes towards instructors. F.BYN's hypothetical question, 'how are we going to understand her?' may imply how students perceived Indian/Pakistanis' accents as an additional burden that complicates the process of understanding content material, which is already complicated by the lack of a shared L1 between student and instructor. This discussion reached an agreement around negative perceptions of Indian/Pakistani instructors teaching them:

Extract 18 (FG2)

F.BYN: The worst accent ever. We had been with Indian instructors before, and we understood nothing.

F.RAW: One of our Indian instructors told us a term, and we looked for this term in the whole chapter and could not find it, but finally we discovered that it is there, but she pronounced it with her accent.

F.BYN: The first question we ask when we have an Indian instructor, 'how are we going to understand her?'

Students in the following comments reiterated the previous point of content terms mispronunciation with Indian/Pakistani instructors. Students showed concerns about how content terms were articulated, as a result of mother tongue influence, and how this would have a further negative impact on both students' understandings and pronunciations. Students' worries resulted from the fear of an inability to understand the instructor accents, and mispronouncing content terms, similar to their instructors' ways, which might lead others to laugh at them. It is interesting that the Saudi and Egyptian accents are described as having flaws, mispronouncing terms, and sometimes speaking too quickly in the case of the Egyptians, but none of these seem to have such drastic consequences as was seen in the case of Indian/Pakistani instructors, for example, 'people will make fun of me.'

Extract 19 (FG2)

F.LAM: Absolutely an accent is a hindrance.

F.BYN: A hindrance and a big one.

F.RAF Speaking is the way of communicating information, and if you do not understand her accent, then you will understand nothing.

F.BYN: The content material consists of many terms, and she mispronounces these terms, we look for these terms and find that she pronounced them differently.

F.LAM: Or for example, if I depended on her way of pronouncing these terms, and then I pronounced them the same as she did, then my pronunciation will be wrong, and people will make fun of me.

As the conversation continued, and students expanded on their views, another example of Indian/Pakistani's flaw of pronunciation was indicated. Instructors changed the pronunciations of particular sounds, and this impacted how the sound was pronounced. An example was given by F.FTM with regards to sounds such as /v/ changed into /w/ and eventually led them to be labelled as incomprehensible. The following comments elaborate on this issue:

Extract 20 (FG1)

IN: Do you have any problems in understanding particular instructors due to their English language?

F.NJL: Mostly with Indian and Pakistani.

F.SAR: Fast, and the accent.

F.NJL: The accent is not understandable.

F.FTM: And there are certain sounds that are not understandable, such as pronouncing /v/ as /w/.

Another reason for downgrading Indian/Pakistani instructors is a failure in communication. Interviewees touched upon how accent plays a role in the effectiveness of communication in the classroom, which in turn impacted the comprehensibility of given material. The interviewees reported that Indian/Pakistani accented instructors had influenced learners' perceptions, impeded their understanding, and made the lessons difficult to follow. The participants were worried about being unable to ask questions for more clarifications because students and instructors did not share the L1. I.RDAF in Extract 22 used an extreme term, 'terrifying,' to express her fear about being taught by Indian/Pakistani instructors; however, it is unclear whether students are more concerned with the accent itself or with the shared L1. F.RAF's response, 'they are good people, but you do not know how to deal with them,' may suggest an awareness of possible prejudice. In SA, there are prejudicial attitudes towards expatriates, which students appear to be aware of and

attitudes may be exacerbated by the Indian/Pakistani accent. In another scenario, students could find Indian/Pakistani accents an excuse to justify their biases.

Extract 21 (FG2)

F.HMS: To be with Indians means no understanding, failing, dropping the subject.

F.RAW: Indian people … I will accept Indians in daily life but not in studying context.

F.RAF They are good people, but you do not know how to deal with them, and their way is different, and their accent is more like Indian language.

F.RAW: It is very, very hard to deal with them.

Extract 22

I.RDA: It is terrifying because of the language and because of the accent itself, which is not clear; therefore, I have that feeling of how I will follow or understand her and how I will ask her to repeat something if I do not understand.

I.RAN: I am having a problem with Indians as being difficult to deal with; I will not be happy or sad, just without feelings.

These unpleasant attitudes from students towards the pronunciations of the instructors reveal the awareness of possible adverse effects of NNES instructors' pronunciation and their familiarity with instructors' flaws. Students are likely to encounter difficulties regarding the instructor's accent, the absence of shared L1, and the students' low English proficiency. Together, these combined factors have contributed to aggravating students' perceptions of Indian/Pakistani instructors in the Saudi context.

Students were aware of the instructors' accents and pronunciation flaws, and most of them rely on familiarity to understand them. Students experienced the difficulty of accents at the beginning of a semester but not later. Thus, they acknowledged familiarity as a major agent that promoted intelligibility and comprehensibility. Several respondents, regardless of their attitudes to each group of instructors, showed that with continuous exposure to instructors, pronunciations and accents became intelligible and understandable after being at one stage challenging to understand.

It can be concluded that the accent and pronunciation can influence attitudes towards particular instructors. The students' comments suggest that an entrenched ideology regarding NNES instructors may be partly found due to the fact that many students

are not accustomed to learning with NES and view them as a standard against which NNES might be measured.

5.2.1.3 Subtheme 3: I like her teaching quality

The theme 'teaching quality' emerged from the data and referred to the instructor's knowledge and ability to teach effectively, including the ability to easily transfer the specific content knowledge to students via a diversity of methods. This is ostensibly more important in the EMI context because successful methods of teaching are required to address linguistic difficulties and disparities. Students mostly refer to this quality in Arabs since those instructors have the ability to deliver the content material in students' first language.

(a) Saudi instructor

Another reason to explain attitudes towards instructors is teaching quality. Respondents believed that better teaching style could help students to understand the materials easily. The desire to have an instructor with better teaching quality is clearly related to a positive view of non-native EMI instructors in the Saudi context. Students preferred local instructors due to the wide range of teaching methods they use in order to help students understand the materials. I.ATH emphasizes flexibility as one of the qualities of a Saudi instructor. Being a flexible instructor in this context refers to the ability to respond to students' various needs and interests. This might indicate the more flexible an instructor's approach is, the higher the instructors' chances of enhancing student involvement and comprehensibility as well as obtaining favourable evaluations. After all, students seem to appreciate instructors who are flexible when delivering the subject and are able to present information in a variety of ways to help them understand.

Extract 23

I.AMR: Because of teaching quality as Saudi instructors usually use varieties of methods to explain and help us to understand, they are more flexible with us

I.ATH: Saudis are really good because of their excellent accent and teaching styles, they use different teaching presentations, and they are also more understandable and flexible.

I.RDA: They (Saudi instructors) have good teaching styles; I mean during the class she used different methods of teaching to help me understand the given materials, she is usually more flexible than others when it comes to exam and teaching the content materials

In another discussion, the quality of teaching of Saudi instructors seems to be negotiated and raised contradictions among students. F.WAL touched upon how Saudi's teaching ability to communicate content knowledge was not in line with students' expectations. However, this view collided with the majority of the group, whom, in turn, started to make a series of justifications for new Saudi instructors. The following discussion is an example:

Extract 24 (FG1)

F.WAL: About Saudi instructors, they have knowledge but sometimes cannot deliver the information to the students.

F.FTM: Sometimes, we do not give them chances to be creative. Now new Saudi doctor is coming to our department, and this is her first-year studying; therefore, she is trying her best in teaching us, but the students do not give her the chance to do so, they keep saying she is not good at teaching. It is normal, and she needs more years to be experienced just like others before her.

F.NJL: For instance, [Dr. Name], she is perfect, but students did not attend her classes because her voice is very low. She knows her flaw and tries to be better.

F.MAR: But she is special, cool, and calm, I like her teaching styles.

F.NJL: particularly, yesterday lecture, we were delighted.

(b) Egyptian instructors

Egyptian instructors are also evaluated according to their teaching quality and ease of communicating knowledge. I.AMR stated that it was Egyptian instructors who have in-depth knowledge since these courses are content-focused. In I.RAN's and I.AMR's responses, they believed that having an accent is the only disadvantage for Egyptian instructors because they tend to be knowledgeable, qualified, and have a solid foundation in their content area. Egyptians are stereotyped as being people of knowledge, which was covered in further detail in Chapter Two, Section 2.4.

Extract 25

I.AMR: Egyptian instructor, the positive thing is her teaching quality and how she is knowledgeable and really qualified I can say.

I.RAN: Yes, Egyptian instructor even though she has an accent but most of the time, she is better than Saudi instructor in communicating information, and she is knowledgeable.

I.AMR: Then, it might be Egyptians because they are very much qualified. Although their pronunciation is, kind of, wrong; but they are knowledgeable, and their teaching quality is highly professional.

A similar view about Egyptians was also shared in the group discussions. The favourable stance is also built on the knowledge of Egyptian instructors. Apparently, students valued the instructors as having better teaching quality and regarded that as fundamental and necessary for the perception of EMI instructors as favourable. The following comments speak to this issue:

Extract 26 (FG1)

F.NJL: Egyptian instructors are the best in teaching the material because they are knowledgeable, I mean

F. FTM: although they do not use much of PowerPoints or technology, but we understand them the best, I think because they have very good knowledge in their speciality

F.HAN: my experience is different; my Egyptian instructor is actually using different methods to make us understand and I like that despite her wrong accent sometimes.

F.SAL: indeed, I would say that, too. They are knowledgeable and intelligent

5.2.1.4 Subtheme 4: It is not about nationality

Respondents preferred a particular group of instructors over others; however, at a certain point, the most crucial aspect is the knowledge and expertise of instructors in communicating the content of the subjects. The group discussion below shows how students reached an agreement on discounting instructors' nationalities and, instead, they stressed the instructors' qualifications and the successful communication of information. It might refer to their realisation that this is the 'correct' view of EMI, and that they should make this their public opinion. F.SAR underscored the accent compared with the content material; the latter seems to be more important than the accents or nationalities of instructors. She is willing to 'manage' the consequences of

accent as long as the instructor is delivering the content subjects in an interesting way. The following discussion speaks to this issue:

Extract 27(FG1)

F.FTM: It depends on her qualification, teaching efficiency.

F.NOH: It depends on her efficiency regardless of her nationality. The most important thing is to understand her and be relaxed with her no matter what is her nationality.

F.SAR: I could manage the accent, but the most important is the content knowledge.

F.HAN: The knowledge should not be lost, and yes, the content is important … I mean to be presented in a professional manner.

A similar agreement is also observed in another discussion about the importance of comprehensibility of instructors regardless of their nationality. While there was a shared consensus, reasons varied, showing how students negotiated their positions right from the start. F.RAF continued the discussion on the significance of instructors' comprehensibility; however, it seems that Indian/Pakistani and Egyptian instructors were excluded. Her word 'sometimes' shows how the student's feeling towards Egyptians is not as strong as towards Indian/Pakistani. Once again, though nationality was set aside for a while, students brought it back again to the discussion table. F.HMS and F.MAN joined F.RAF and agreed on how content knowledge is important rather than nationality but with an appreciation for Arabic instructors who are switching into Arabic and more appreciation for the local instructor for being 'helpful and flexible.'

Extract 28 (FG2)

F.BYN: It is not about nationality.

F.LAM: It is more about how she explains the materials and deliver the knowledge.

F.LAM: It does not matter what accents she speaks, if I understand her that is OK and if I do not even OK, actually I have to accept her after all.

F.RAF The most important is to understand the given material, and that is not easy with Indians and sometimes Egyptians.

F.HMS: Egyptian instructors at least translate the material into Arabic if we have complicated terms that we do not understand.

F.MAN: Nationality is not as important as knowledge, but yes, I agree with you, and I would prefer Saudi instructor over Egyptian in … yes, teaching us because of besides translating into Arabic she

is helpful and flexible, but in general I will be happier with Arabs than with non-Arabs such as Indian instructor.

The discussion returned to the relevance of knowledge and the effects of content instructors' accents. F.NJL started by suggesting that knowledge and understanding the content material is more important than the English accents. However, at the end of her comment, she contradicted herself and prefer not to have an instructor with an accent, which suggests that respondents still held the traditional viewpoints about non-native instructors and evaluated them in accordance with the native norms. However, F.SAR seemed to have a different perspective and believed that accent is a hindrance to comprehending instructors. F.SAR, in another position in Extract 29, supported her belief with an example of how Egyptian's mispronunciations led to a disaster in Egypt's history. But the rest of the groups pulled the discussion then into the idea of comprehensibility and how understanding the instructor's speech is more important than the accent. They also indicated neither accent nor nationality is as important as learning knowledge, and knowledge was placed at the top of the students' concerns.

Extract 29 (FG1)

F.NJL: Knowledge is the most important, regardless of nationality or accent. Because those with accents are still keeping their identities and by talking, we recognise from where they are. I like that but for me and being taught with someone with that accent, no I do not like.

F. FTM: Some may have struggled to improve their accents and be better but still not an easy thing to change the accent.

F.HAN: I think accent does not matter as long as I understand what she is saying.

F.SAL: And she is clear and understandable.

F.SAR: I think the accent is negative and hindrance, for example, people who drowned in Egypt, they were saying 'we are sinking,' and other Egyptians said, 'what are you sinking (thinking) about?' and the ship drowned, and the people died.

F.HAN: What I mean if the sentence is clear, and the meaning is understandable.

F.SAR: But they understood something else different and that because of the accent.

Similarly, in individual interviews, this pattern was found for one interviewee who asserted the importance of knowledge rather than nationality. At a certain point, I.AMR, although she chose Saudi instructors as her first choice in instructor's recruitment, later she appeared to dismiss nationality. She emphasised that the

instructor's knowledge of the content and her ability to communicate the materials precedes the nationalities of instructors as she elaborated in the comment below:

Extract 30

I.AMR: Maybe Egyptian, but to be honest I have no preference for any particular nationality, what really matters is to be taught by an instructor who is knowledgeable and can communicate the information easily.

It can be concluded that the instructor's ability in the English language, teaching style, knowledge of EMI content courses can, at some point, overcome the requirement of the instructor to be from a particular nationality.

5.2.2 Theme 2: Students' further needs

5.2.2.1 Subtheme 1: Suggestions for instructor's recruitment

This subsection builds upon interviewees' previous responses, which aim at providing recommendations for improving the instructors or the protocol of hiring instructors. By asking the interviewees about any suggestions they wanted to deliver. They took this as a chance to give suggestions with regards to instructors and recruiting them. It is interesting that they brought it up spontaneously, which gives an emphasis and suggests that it is more important for them if they bring it up rather than being asked about it. It is included because it might shed light on students' expectations for their instructors, and recruiters can take these suggestions into account in the process of hiring EMI instructors in the Saudi context. The most repeated suggestion was considering instructors' qualifications and teaching ability.

Extract 31

IN: Do you have any further thoughts about the interview? Or are there any more things you would like to say before we end the interview?

I.ATH: I feel that it is important before hiring an instructor, they should evaluate his/her teaching qualification and his/her ways of dealing with others. Sometimes we asked a question and discovered that the instructor understands nothing and refused to help us; therefore, it is necessary to conduct interviews before recruiting those instructors to judge their teaching suitability.

IN: Do you mean specific nationality?

I.ATH: For any nationality, it is preferable to interview her first to evaluate her qualifications and communications with others.

Another student suggested recruiting native instructors (American and British), not necessarily in EMI classes but in linguistic classes. She looked for a change from current typical instructors, and not just 'only Indian, Saudi or Pakistani.' Although she suggested hiring NES, she admired her friend's NNES Russian instructor. Her use of the phrase 'but the accent is perfect' indicates that perhaps she views this NNES accent as a significant reason for demanding a change. Moreover, the fact that instructors from 'Russia' appeared to be more preferred to be recruited than those from other NNES countries, such as India, Egypt, and SA, may suggest that 'whiteness' is associated with English. Yet, without probing further, one cannot say for certain if this was true. Her perspective might suggest that English had a strong association with a particular 'image' that includes being of Caucasian background.

Extract 32 (FG2)

F.MAN: Yes, I have an additional idea. I think they should change those nationalities. I mean, not only, Indian, Saudi or Pakistani. They should bring other nationalities such as British and American, particularly for English course. One of my friends in Riyadh university studies with a Russian instructor who teaches her an important subject, and she understands her and is happy with that.
IN: But still non-native speaker.
F.MAN: True, but the accent is perfect, and she told me that they like the subjects with her.
F.REH: Yes, indeed I think that would be good.
F.REM: But the communication with her must be tough since she cannot speak Arabic.

5.3 Chapter summary

This chapter has discussed the qualitative analysis of the current research, which combined the findings from individual interviews and FGs. After the data analysis, interviews and FGs generated themes that were valuable in giving more in-depth insights on students' attitudes. Several factors were identified that impact attitudes to NNES EMI instructors from different nationalities in the Saudi context. All groups of instructors received different attitudes ranging from negative to positive. Generally, Saudi students tend to construct a hierarchy for instructors for practical reasons, and

they put local instructors at the top of the hierarchy, Egyptians are in the next position, and Indian/Pakistani instructors are at the bottom of the hierarchy. Arabic, as a shared language and the most prominent one, is highly responsible for creating this hierarchy and shaping students' perceptions in regard to NNES EMI instructors. Students also believed that creating an understandable and comprehensible environment is significant in feeding positivity towards NNES EMI instructors, and that is attained by having a better accent and clear pronunciation.

The following chapters will delve further into students' attitudes towards their instructors and display the quantitative results obtained from IATs, the attitudinal questionnaires, and speech constructs, and the techniques used to measure students' attitudes implicitly, explicitly, and ratings of ICA of EMI NNES instructors.

Chapter Six: Quantitative Results

The previous chapter provided a comprehensive analysis of the first phase of mixed methods design, that is, the qualitative phase. This chapter presents the second phase, namely the quantitative phase results, which expands upon the results of the qualitative phase. The chapter starts with an overview of the participants included and then it continues with a detailed description of the analyses in relation to each research question.

6.1 Results

The results are presented in relation to each of the following research questions.

RQ1- Do Saudi students hold different attitudes (implicit and explicit) towards Arab NNES and non-Arab NNES instructors who teach content courses using EMI? And (if any) why?

RQ2: How do Saudi student listeners rate EMI instructors in terms of intelligibility, perceived comprehensibility, and perceived foreign accentedness?

RQ3- Does the presence of students' attitudes affect their ratings of intelligibility, perceived comprehensibility, and perceived foreign accentedness of EMI instructors?

RQ4: What demographic factors affect Saudi students' implicit and explicit attitudes towards EMI instructors?

RQ5: What demographic factors, besides attitudes, affect Saudi students' ratings of intelligibility, perceived comprehensibility and perceived foreign accentedness of EMI instructors?

Each of these questions will be presented in turn after examining the participants of the study.

6.1.1 Description of Participants

As mentioned in Chapter Four, data were obtained from EMI undergraduate female students studying in a public university in SA. The students received an information sheet where I wrote the instructions, the purpose of the study, and included a set of tasks and each task had Qualtrics' link, that is, in total four links with three links for the three tasks of IAT tests, and one link for the three tasks of speech constructs experiments, attitudinal questionnaires, and demographic information together. The study was administrated online, and it was challenging to ensure that students all completed the same set of tasks. Some of the participants completing the set of assessing speech constructs, attitudinal questionnaire, and demographic information failed to complete the IAT tests and thus were eliminated. Others opened the Qualtrics links and started the tasks but stopped in the middle, and they were also discarded. A total of 127 students were involved in the tasks of the speech constructs, attitudinal questionnaire, and demographic backgrounds; however, 13 participants stopped and did not complete the entire tasks and thus were discarded. Four participants were also eliminated because they did not do the tasks of the IATs. The revised number of respondents became 110.

With regard the IATs tests, the actual number of respondents as shown in Qualtrics are 206, 204, and 144 respondents for (SA_EG), (EG_IN/P), (SA_IN/P), respectively. Approximately half of them either opened or started the tests but did not complete them. Six participants were disqualified due to their fast responses (further detail in Section 6.1.2). Thus, the revised numbers of each IAT are shown in Figure 6.2. The main study mostly included the students who took part in the four Qualtrics links. When the students performed the tasks within the four links of the Qualtrics, they were asked to provide identical names in the four links to easily identify them and facilitate the process of linking their responses within Qualtrics. The four Qualtrics links are summarised in the following figure (Figure 6.1) alongside the assigned tasks and the number of participants in each task.

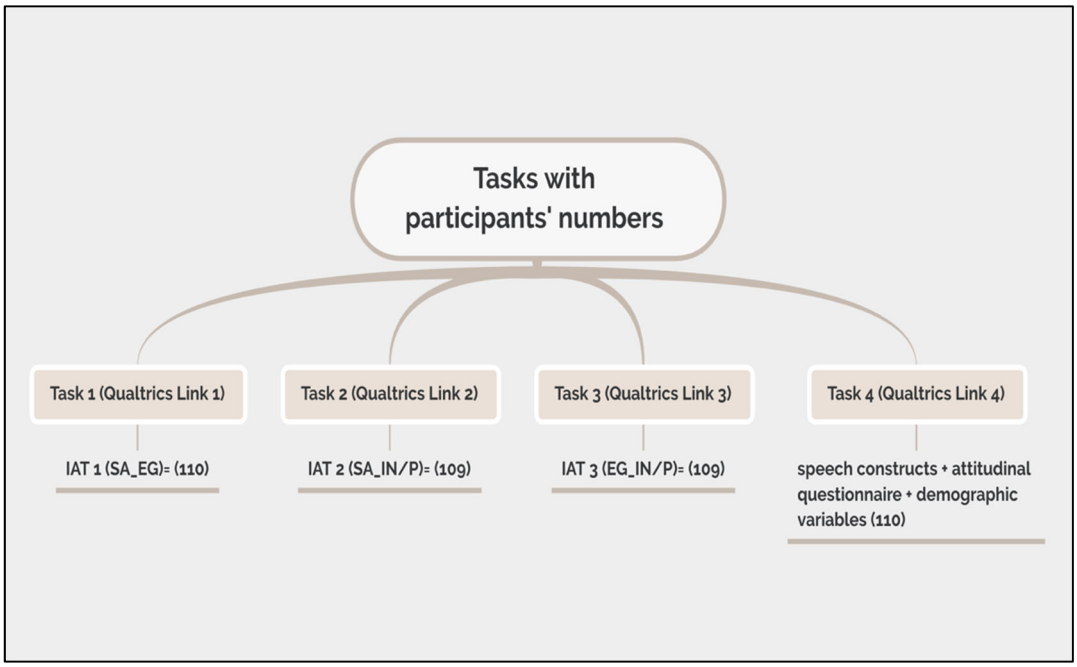

Figure 6.1 Summary of the tasks (in Qualtrics links) used in the study and the number of participants in each of these tasks. (Note: the links were distributed to the students in different orders, but they were arranged in this manner for the figure.)

The explicit questionnaire's provided demographic information about respondents enabling me to check that variables such as age, travelling abroad, attending secondary schools, and English institutions were approximately controlled. Since the respondents are university female students, the age was quite similar. The selected respondents' age ranged between 18 and 24, with the majority aged between 18 and 22 years old and one participant aged 28 (mean = 21.23, SD= 1.56). Travelling abroad, attending secondary schools, and English institutions are summarised in Table 6.1.

Table 6.1 Demographic characteristics of travelling abroad, secondary school and English Language institution (N = 110)

Demographic characteristics	**Frequency**	**%**
Travelling abroad		
Yes	36	32.7
No	74	67.3
Total	110	100.0
Secondary School		

Public	104	94.5
Private	6	5.5
Total	110	100.0
Private English Language Centres		
Yes	17	15.5
No	93	84.5
Total	110	100.0

When students were asked, 'What is the longest period of time you have spent outside Saudi Arabia? And where?' They were given six options, and because most of the students have never been out of SA and few of them have travelled for a short time (under four weeks), the responses have been re-arranged into 'Yes' and 'No.' From the above table, 67.3% of students have not travelled outside SA, and 32.7% have travelled for short periods of time. The background questions also show that 94.5% went to public schools and about 5.5% studied in private schools. In SA, all levels of education are free. That is why the majority of students surveyed were educated in public schools. Furthermore, respondents revealed that they did not go to private English language centres, whether inside or outside SA, except for 17 respondents.

The background questions also show that students have had experience with instructors of different nationalities (Arabs and non-Arabs). Table 6.2 shows that there is a predominance of Arab instructors, mainly Egyptians. Students also have had experience with EMI instructors from India/Pakistan, in which students were taught by at least one instructor. Tables 6.3 and 6.4 also show that students have minimal experience with NES instructors.

Table 6.2 Number of participants by the number of Arab instructors (frequency and percentage)

Experience with Egyptian instructors	**frequency**	**%**
none	12	10.9
1	8	7.3
2	9	8.2
3	17	15.5
4	15	13.6
5	6	5.5
More than 5	43	39.1
Experience with Saudi instructors	**frequency**	**%**
none	10	9.1
1	5	4.5
2	17	15.5
3	23	20.9
4	13	11.8
5	7	6.4
More than 5	35	31.8
Experience with Sudanese instructors	**frequency**	**%**
none	19	17.3
1	24	21.8
2	29	26.4
3	24	21.8
4	8	7.3
5	3	2.7
More than 5	3	2.7

Table 6.3 Number of participants by the number of non-Arab non-native instructors (frequency and percentage)

Experience with Indian/Pakistan instructors	**frequency**	**%**
none	8	7.3
1	15	13.6
2	39	35.5
3	29	26.4
4	13	11.8
5	2	1.8
More than 5	4	3.6

Table 6.4 Number of participants by the number of native instructors (frequency and percentage)

Experience with UK instructors	**frequency**	**%**
none	97	88.2
1	10	9.1
2	3	2.7
3	0	0
4	0	0
5	0	0
More than 5	0	0
Experience with US instructors	**frequency**	**%**
none	97	88.2
1	10	9.1
2	3	2.7
3	0	0
4	0	0
5	0	0
More than 5	0	0
Experience with South African instructors	**frequency**	**%**
none	76	69.1
1	26	23.6
2	7	6.4
3	1	.9
4	0	0
5	0	0
More than 5	0	0

Table 6.2 above showed that students had experiences with Sudanese instructors; despite that, Sudanese were not included in the current study. This decision was made because it was considered that the inclusion of a fourth instructor (in addition to Saudi, Egyptian, and Indian/Pakistani) would make the participants fatigued when it came to responding to the Qualtrics links with the tasks of the study since these tasks were about the NNES instructors.

Due to limited variation in age, international experience, attendance at secondary schools, and private English language Centres, these were not considered variables. The rest of the respondents' demographic information that was included in the analysis, such as English proficiency, the academic year of study, the major of students, media exposure, is detailed below.

English proficiency level

Students' English proficiency level has been repeatedly mentioned as a recurring factor influencing the perception of EMI in general (e.g., Kamaşak et al., 2021) and in the SA context in particular (e.g., Alfehaid, 2018; AlZumor, 2019; Louber & Troudi, 2019; Shamim et al., 2016). In terms of attitude, there is also a strong and consistent connection between attitudes towards language and the proficiency of the students (Baker, 1992; Gardner, 1985). Moreover, in speech perception, English proficiency level has also been investigated and found as a factor in the listener's understanding of spoken language (Ludwig & Mora, 2017; Munro et al., 2006). As a result, it is imperative to detect if the Saudi participants' perceptions of their English proficiency impact their evaluations of different EMI instructors. In this study, students' English proficiency level was measured by participants self-reporting their levels of English proficiency from three options.

Table 6.5 Self-report English proficiency levels of the participants

English levels	Frequency	%
Beginner	11	10
Intermediate	78	70.9
Advanced	21	19.1
Total	**110**	**100**

Table 6.5 above shows three levels of English proficiency: beginner, intermediate, and advanced. The data shows that 11 students out of the 110 are at the beginner level in terms of proficiency, 21 students were in the advanced level, and 78 students were in the intermediate level. Thus, the majority of respondents in this context described themselves as having intermediate levels of English proficiency.

Academic year

The second variable taken into account is students' academic years. The selected participants for this study were at different levels of education, starting from Year 2 and higher. The academic year of students, along with their corresponding frequencies and percentages are shown in Table 6.6.

Table 6.6 Academic years of the respondents at the university

Academic Years	Frequency	%
Second Year	25	22.7
Third Year	22	20
Fourth Year	20	18.2
Fifth Year	43	39.1
Total	**110**	**100**

The data was obtained from the second year and above, and no data was collected from the freshmen (first year); this was based on the assumption that they used to be taught by solely Saudi instructors in high schools and had not fully been exposed to the experience of learning with instructors from different nationalities. Hence, they would not have been able to adequately judge those instructors. As can be seen in the table above, the highest proportion of participants were from Year 5. The second-highest number of participants were from Year 2.

Students' major

The selected participants for this study were from different majors, namely science majors, including from the Medical College, Applied Science and Computer Science. Humanities majors were not included since they were being taught through AMI. Table 6.7 presents participants' majors with frequencies and percentages.

Table 6.7 Respondents' majors at the university

Major	Frequency	%
Medical college	34	30.9
Applied Science	34	30.9
Computer Science	42	38.2
Total	**110**	**100**

Table 6.7 shows that the number of respondents who participated in the study and specialised in Computer Science is the highest followed by Applied Science and Medical College students with an identical number of respondents. These disciplines were selected because they are the ones that use EMI most widely in most SA universities due to the importance of English for their future careers. In light of this,

it is necessary to inspect whether the different majors of Saudi participants' influence their attitudes and perceptions towards different EMI instructors.

Media exposure

In the present study, media exposure questions were included as they might influence how students evaluate EMI NNES instructors who came from various cultural backgrounds. The following table (Table 6.8) summarises the respondents' media exposure in hours per week.

Table 6.8 Respondents' Arabic media exposure (in hours) per week

Hours of Exposure	**A-Channels**		**A-YouTube**		**A-Netflix**	
	F	**%**	**F**	**%**	**F**	**%**
Never	56	50.9	19	17.3	94	85.5
Less than one hour	25	22.7	14	21.8	9	8.2
1-2	14	12.7	26	23.6	4	3.6
2-3	8	7.3	16	14.5	2	1.8
More than 3	7	6.4	25	22.8	1	.9
Total	**110**	**100**	**110**	**100**	**110**	**100**

As seen in the table above, most students did not watch Arabic Channels or Netflix in Arabic, and the number of students exposed to these two media decreases as the number of hours of exposure increases. However, when it came to watching Arabic YouTube, the number of students in each category were nearly similar.

Table 6.9 Respondents' English media exposure (in hours) per week

Hours of Exposure	**E- Channels**		**E- YouTube**		**E-Netflix**	
	F	**%**	**F**	**%**	**F**	**%**
Never	51	46.4	15	13.6	30	27.3
Less than one hour	21	19.1	26	23.6	8	7.3
1-2	21	19.1	27	24.5	19	17.3
2-3	10	9.1	16	14.5	8	7.3
More than 3	7	6.3	26	23.8	45	40.8
Total	**110**	**100**	**110**	**100**	**110**	**100**

The above table shows that 46.4% of the students did not watch English channels, and the number of students decreases as the number of hours of exposure increases. However, students spent more time watching English YouTube and Netflix.

To avoid redundancy in measuring the variable of media exposure of the three groups of EMI instructors with different types of media, the Saudi respondents' responses have been re-arranged into 'Arabic media' and 'English media.' The two categories include participants who watched less than four hours per week and stated their level as 'low exposure' and 'high exposure,' which contains the group of participants who watched four hours and more per week (see Table 6.10).

Table 6.10 Respondents' English and Arabic media exposure (low and high exposure)

Media Exposure	Arabic Media		English Media	
	F	%	F	%
Low exposure	64	58.2	29	26.4
High exposure	46	41.8	81	73.6
Total	**110**	**100**	**110**	**100**

Having presented the demographic information regarding the study participants in the quantitative phase, the following sections detail the results based on each research question.

6.1.2 RQ1: Results of students' Implicit and explicit attitudes towards EMI instructors

This section answers the first research question regarding students' attitudes towards NNES EMI instructors and details the research tool results where the respondents undertook psychological experiments, that is, IATs, and evaluated each EMI group of instructors on a Likert-scale. Then, each of these will be discussed in turn.

Implicit attitudes analysis

The implicit attitude towards the EMI instructors was found by measuring the latency (i.e., response time) in milliseconds and recording that as the response data for each individual in categorising stimuli as a D-score (see Chapter Four). For this research, the IATs produced three D-scores, which determined participants' implicit attitudes towards the three combinations groups of instructors. The three D-sores were

produced because three IATs were conducted. As mentioned in Chapter Three, the IAT is created to measure the association between two binary target concepts (Greenwald et al., 1998) (e.g., Saudi instructor vs. Egyptian instructor). Since the current study was designed to measure three attitudinal objects, one IAT was created for each combination of instructors, resulting in three IATs with three D-scores.

Data cleaning procedures were automatedly conducted in the iatgen tool, and to ensure validity, participants from extremely fast and extremely slow trials were removed. In compliance with Greenwald et al.'s (2003) recommendations, participants with reaction times below 400 ms or whom had more than 10% of their responses above 10,000 ms were deleted and scored as missing. In this study, the number of dropped participants was six participants from the three IATs. One respondent was discarded from the IAT (SA_IN/P) test, three respondents were removed from the IAT (SA_EG) test, and two respondents from the (EG_IN/P) test. All of them were removed due to excessive fast responses.

The data analysis of the IAT was also automatedly conducted in the iatgen tool (see Carpenter et al., (2019), who provided extensive details in how the iatgen tool analyse the results as well as evidence for its validity by examining its correlations with other established reaction time programmes). (See Appendix C2 for a screenshot of the analysis tool (http://iatgen.org/) with examples provided by the tool developers.)

The first step of analysis of the present research was calculating the reliability analysis and internal consistency of each test. All IATs' reliability analyses were satisfactory and close to the meta-analytic average (.79) (Hofmann et al., 2005), as shown in Table 6.13. Error rates were also acceptable, and they were between 6-7% (Rudman (2011) reported error rates at 5-10% for most IATs).

To generate D-score in the current study, the iatgen analyses were calculated following Greenwald et al.'s (2003) guidelines. Measuring implicit attitudes were conducted by using the differential speed with which participants paired (SA instructor + positive traits and EG instructor + negative traits) compared to the reverse

combination (SA instructor + negative traits and EG + positive traits). These different scores (in milliseconds) were converted into effect sizes similar to standardised units of Cohen's *d* (IAT D-score) using the algorithm standard within the literature (proposed by Greenwald et al., 1998, 2003).

In terms of the D-score output, it indicates the 'effect size' and the direction of association or bias, in this study, attitude towards instructors. These effect sizes indicate the strength of the disparity between the pair of instructors' blocks for each respondent. The larger the effect size, the greater the difference between the blocks. Regarding the direction of bias, the D-scores can be either positive or negative, indicating the direction of associations. A positive D-score indicates the association of Target A with positive traits and Target B with negative traits. In contrast, when D-score is negative, it indicates the opposite bias in which Target A with negative traits and Target B with positive traits. A zero score indicates no bias. Table 6.11 shows Target As and Target Bs in the current study in the three IATs.

Table 6.11 Target A and Target B in the three IATs

IATs	Target A	Target B
1- (EG_IN/P)	EG instructor	IN/P instructor
2- (SA_EG)	SA instructor	EG instructor
3- (SA_IN/P)	SA instructor	IN/P instructor

The D-scores classified participants into groups of attitude associations based on the psychological conventions for effect size, as shown in Table 6.12, which summarises the groups of attitude associations with the corresponding D-scores. (For individual D-scores of each participant, see Appendix C1.)

Table 6.12 IAT break range and its attitude associations

Break range	Attitude associations interpretation
$-0.65 \leq x \leq -2$	Strong Negative Association
$-0.35 \leq x \leq -0.65$	Moderate Negative Association
$-0.15 \leq x \leq -0.35$	Slight Negative Association
$-0.15 \leq x \leq 0.15$	Neither Negative nor Positive Association
$0.15 \leq x \leq 0.35$	Slight Positive Association
$0.35 \leq x \leq 0.65$	Moderate Positive Association
$0.65 \leq x \leq 2$	Strong Positive Association

Source: Tse and Tung (2020), x = D-score

The results of the current study show that the three D-scores were all positive, indicating that the participants were significantly faster at pairing positive traits with Target As, which were SA and EG, as indicated in Table 6.11.

In other words, the IAT of (SA_IN/P) revealed moderate positive attitudes towards the SA instructors compared with IN/P instructors (D-score = 0.41). The IAT of (SA_EG) showed also moderate positive attitudes towards SA instructors compared with EG instructors, indicating that the participants were quicker to categorise positive stimuli with SA instructors (D-score = 0.35). The IAT of (EG_IN/P) captured a slight positive association for EG instructors over IN/P instructors (D-score = 0.28). The participants categorised positive stimuli faster with the EG instructors. This shows more preference for Arab instructors over non-Arab instructors, in this case, IN/P instructors.

The next step of the analysis was comparing the means of those participants who presented a positive bias towards Targets A and those whose positive bias was towards Target B to determine the significant differences between them (e.g., Carpenter et al., 2017, 2019; Greenwald et al., 1998, 2003). A t-test was used, and results showed that IAT scores were statistically significantly higher for Target As. In other words, there was a stronger bias towards Targets A than Targets B in the three IATs, as shown in Table 6.13, which summarises the statistical results for the three comparisons of pairs of instructors.

Table 6.13 The three IATs D-scores per comparison between each pair of instructors with standard error. EG= Egyptian instructor, IN/P = Indian/Pakistani instructor, SA= Saudi instructor

Instructors' category	N	D-score	SD	95% CI	t	*d*	*Rel*	*Err*
(SA_IN/P)	109	0.41	0.29	[0.360-0.466]	15.43***	1.47	0.66	0.06
(SA_EG)	110	0.35	0.29	[0.29-0.40]	12.62***	1.20	0.74	0.06
(EG_IN/P)	109	0.28	0.27	[0.23-0.33]	11.06***	1.05	0.65	0.06

Note. *** $p < .00$. $N = 110, 109, 109$. *SD* = standard deviation. CI = confidence interval. *d*= Cohens' *d*. Rel = reliability. Err = error rate.

The interpretation of the IATs D-scores follows from Table 6.12. The IAT (SA_IN/P) shows that participants in this study indicated a moderate attitude towards the SA instructor over the IN/P instructor and significantly associated the SA instructor with positive teaching traits more than they did with the IN/P instructor (t (109) = 15.43, $p < .001$, $d = 1.47$, 95% CI [0.360, 0.466]). For the IAT (SA_EG), the students who participated in this study showed a moderate attitude towards the SA instructor and significantly associated her with positive teaching traits more than they did with the EG instructor (t (110) = 12.62, $p < .001$, $d = 1.20$, 95% CI [0.297, 0.407]). For the IAT (EG_IN/P), participants showed a slight preference for the EG instructor more than the IN/P instructor, and students showed a significant bias towards the EG instructor more than they did to the IN/P instructor (t (109) = 11.06, $p < .001$, $d =$ 1.05, 95% CI [0.235, 0.338]).

When having a closer look at the individual D-scores of participants of pairs of IATs, as shown in the Figure 6.2, the density of participants' D-scores were positive, meaning that the participants were faster in associating Target As in the IATs with positive traits (SA as in Figure 6.2 A and 6.2 B, and EG as in Figure 6.2 C). The following figures visualised the density of D-scores of the individual respondents in the three IATs.

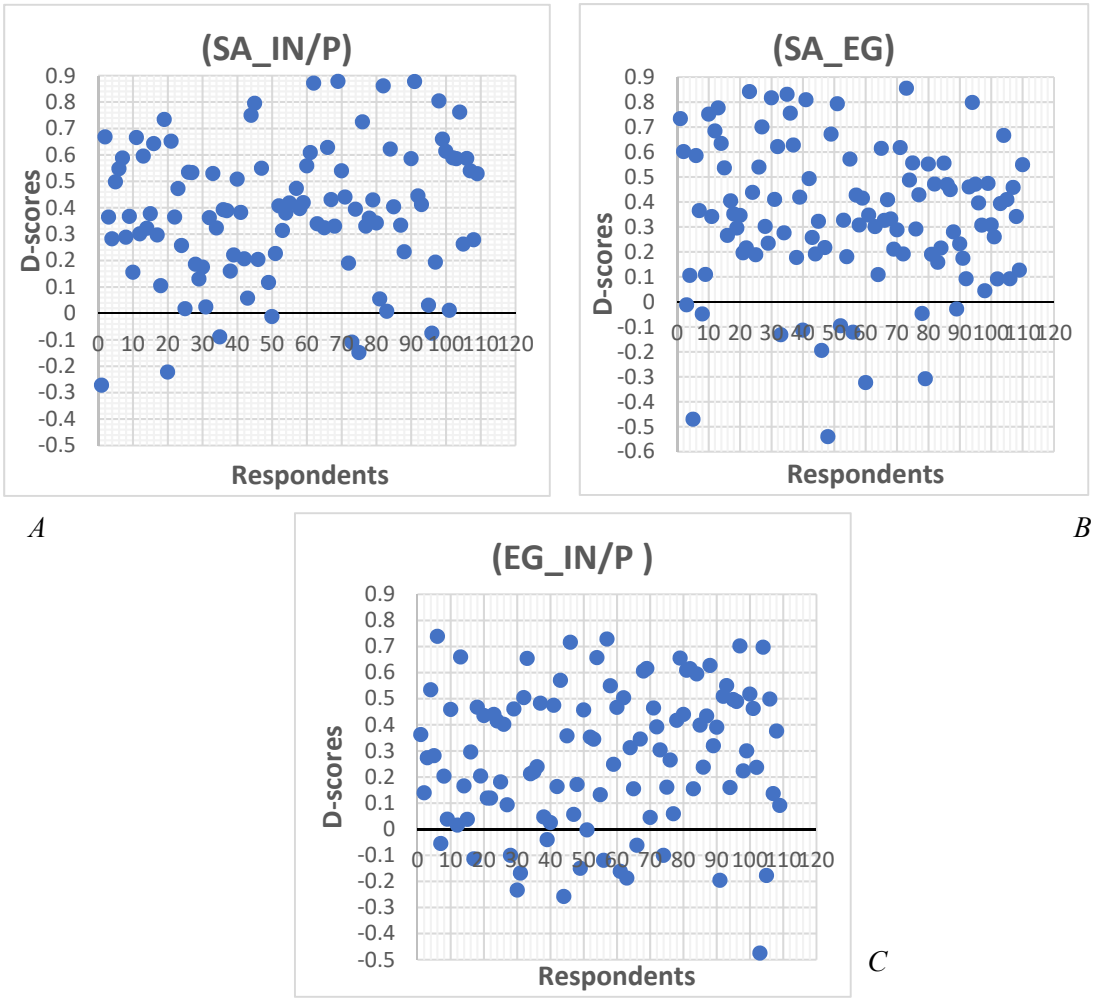

Figure 6.2 (A, B, C) IATs Scatter Plots. The X-axis shows the respondents, and the Y-axis displays D-score (bias) effect. Scores above 0 indicate a bias towards SA (A, B) and towards EG (C), and below 0 indicate bias towards IN/P (A, C) and towards EG (B).

The above scatter plots show that the majority of the sample had positive ($\leq$ 0) associations with SA instructors and EG instructors. In other words, participants associate the positive traits quicker with Target As which are SA and EG, as can be seen in Figures 6.2 A and 6.2 B. Figures 6.2 A and 6.2 B, D-scores density revealed that 92.7% and 88% of participants showed positive bias towards SA instructors, respectively, and associated them with positive traits quicker than they did with IN/P and EG instructors. Similarly, in Figure 6.2 C, the results show that 83.6% of participants had positive biases towards the EG instructors and associated them faster with positive traits than they did with the IN/P instructors.

Explicit attitude analysis

This section presents the second part of RQ1, which concerns students' explicit attitudes towards Arab and non-Arab EMI instructors. While the questions in the qualitative interviews captured the students' experiences and descriptions of the NNES instructors, the questionnaire instrument was used to expand on students' attitudes by using the emerged themes from the interviews and the FGs, and by adding more constructs borrowed from previous literature (e.g., Hendriks et al., 2018; Ling & Braine, 2007; Moussu, 2006). Students gave responses to a number of attitudinal statements to evaluate three groups of instructors included in this study: Indian/Pakistani instructors (non-Arabs), Saudi instructors (Arabs and locals), and Egyptian instructors (Arabs).

As previously mentioned in Chapter Four, the questionnaire scale goes from 1 (strongly disagree) to 5 (strongly agree). The statements are arranged in such a way that strong agreement reflects the most positive attitude, and strong disagreement reflects the most negative attitude. A value of 3 is likely to indicate a neutral attitude. It has been suggested that 3 can also mean avoidance of the question (Garrett et al., 2003), and this possibility will be taken into account in the interpretation of the results.

As a reminder, in the questionnaire, each statement was replicated three times for each instructor, with the instructor's nationality being stated each time. The statements mentioned here are organised by construct to show how students evaluated instructors in each construct. In this section, there were three dependent variables: the respondents mean ratings of SA instructors, EG instructors, and IN/P instructors.

The first step of analysis was the mean ratings of each EMI group of instructors in all constructs for each group of instructors' overall rating. Table 6.14 summarises these means and shows that the SA instructors were rated the highest, followed by EG, the other Arab instructors, and then the IN/P, the non-Arab instructors.

Table 6.14 Total mean ratings of all EMI instructors (*N* = 110)

EMI instructor	N	Mean	Median	SD.
Saudi instructors	110	3.93	4.00	.43
Egyptian instructors	110	3.16	3.13	.62
Indian/Pakistani instructors	110	2.31	2.27	.57

The results above demonstrate that when the evaluations of all constructs are averaged together for each of the three instructors, a clear pattern emerges: Arab instructors, that is, SA and EG, were rated higher and with positive attitudes with mean ratings of M = 3.9 and M = 3.1, respectively, compared with non-Arab instructors, that is, IN/P instructors. On the other hand, students revealed a negative attitude towards IN/P instructors (M = 2.3). This finding is consistent with data obtained from the interviews and FGs previously conducted. Furthermore, responses to several statements (see the next sections) show that students systematically evaluated IN/P instructors less positively than the other two groups of instructors. Students systematically evaluated SA instructors more positively than other groups. Students, however, were more reluctant to evaluate their EG instructors and reported relatively neutral attitudes towards them.

Questionnaire constructs

The second stage in data analysis was to analyse each construct in the questionnaire more closely in order to provide an initial interpretation of how each group of EMI instructors was perceived in each construct. Figure 6.3 summarises students' attitudes per construct of the questionnaire in a Likert scale from (1-5).

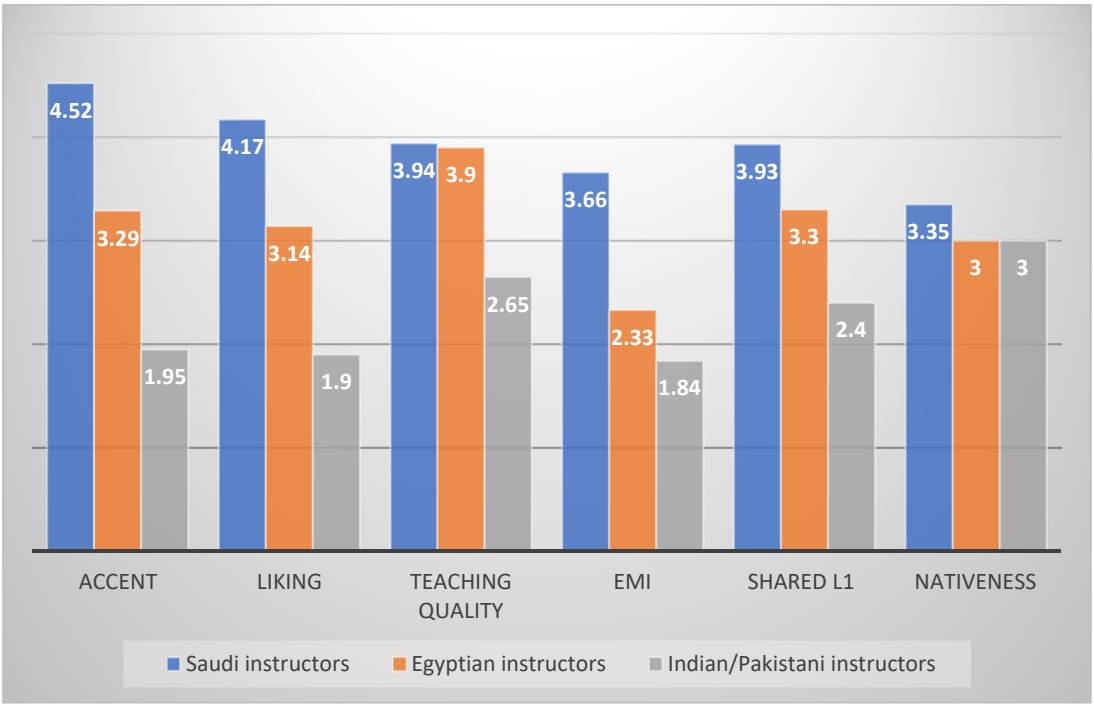

Figure 6.3 Summary of the averaged items of each construct for each group of instructors

For each statement in each construct the mean, median, standard deviation, and the frequencies of the rating scales (from Strongly Disagree to Strongly Agree) are provided in the following tables. I aggregated the frequencies of strongly agree with agree and strongly disagree with disagree when presenting the agreement frequencies.

The statements of the first construct of the questionnaire asked the students about the accents of their instructors. Students responded differently to the statements based on the nationalities of the instructors.

Table 6.15 Perception of students towards EMI instructor groups for the statement *I understand (nationality) instructors' pronunciations so easily* (*N* = 110)

EMI instructors	Mean (SD)	Median	SD% (1)	D % (2)	NS% (3)	A% (4)	SA% (5)
SA instructors	4.56 (.53)	5.00	0	0	1.8	40.0	58.2
EG instructors	3.45 (1.05)	4.00	4.5	17.3	18.2	48.2	11.8
IN/P instructors	2.12 (1.09)	2.00	32.7	40.9	10.9	12.7	2.7

Note SD= Standard Deviation, SD=Strongly Disagree, D=Disagree, NS= Not Sure, A= Agree, SA= Strongly Agree.*

Table 6.16 Perception of students towards EMI instructor groups for the statement *I understand what (nationality) instructors are saying without a problem* (*N* = 110)

EMI instructors	Mean (SD)	Median	SD% (1)	D % (2)	NS% (3)	A% (4)	SA% (5)
SA instructors	4.49 (.55)	5.00	0	0	2.7	45.5	51.8
EG instructors	3.14 (1.12)	3.00	5.5	30.9	17.3	37.3	9.1
IN/P instructors	1.80 (.81)	2.00	39.1	47.3	8.2	5.5	0

From Tables 6.15 and 6.16 it can be seen that responses varied substantially between instructors. The results indicate that the respondents had a more positive attitude towards the SA instructors in terms of accent. This was evidenced by the mean scores across the two items (M = 4.56, 4.49), and 98.2% and 97.3% of the respondents agreed with these statements about Saudi instructors, followed by EG instructors with a 60% and 46.4% of respondents' agreement and mean scores of M = 3.45 and M = 3.14. The IN/P instructors were rated negatively as the unfavoured instructors with only 15.4 (5.5%) of the respondents agreeing to these statements, with mean scores of M = 2.12 and M = 1.80, confirming the overall attitude results and interviews' findings (see Chapter Five). The SA and EG instructors' positive evaluations might show that students' understanding of their instructors' pronunciation could be, in fact, a question of the country of origin. Since instructors are from Arab countries and speak Arabic, they would receive better evaluations. We will see that this is in contrast to the

students' ratings for speech constructs, that is, intelligibility and perceived comprehensibility of the second research question (see Section 6.1.3), which revealed that respondents comprehend IN/P speakers better than EG speakers.

To the construct of liking, as can be seen in the following tables, responses to the three groups of instructors still followed the same evaluations order.

Table 6.17 Perception of students towards EMI instructor groups for the statement *I will be happy to have (nationality) instructors* (*N* = 110)

EMI instructors	Mean (SD.)	Median	SD% (1)	D % (2)	NS% (3)	A% (4)	SA% (5)
SA instructors	4.17 (.77)	4.00	0	1.8	17.3	42.7	38.2
EG instructors	3.15 (1.02)	3.00	7.3	20.0	34.5	26.4	11.8
IN/P instructors	1.97 (1.06)	2.00	46.4	20.9	21.8	10.9	0

Table 6.18 Perception of students towards EMI instructor groups for the statement *I would enjoy taking another class with the (nationality) instructors* (*N* = 110).

EMI instructors	Mean (SD.)	Median	SD% (1)	D % (2)	NS% (3)	A% (4)	SA% (5)
SA instructors	4.17 (.83)	4.00	.9	2.7	13.6	43.6	39.1
EG instructors	3.13 (1.11)	3.00	7.3	22.7	30.9	28.2	10.9
IN/P instructors	1.85 (.98)	2.00	48.2	28.2	14.5	9.1	0

In the same vein, the rankings above indicate that the Saudi respondents judged instructors from SA more positively (M = 4.17) than the instructors from Egypt (M = 3.13, 3.15) and India/Pakistan (1.97, 1.85). The majority of the participants (80.9% and 82.7%) acknowledge that they would be happy to have more classes with SA instructors. For the EG instructors, students seemed to be reluctant. They exposed a neutral attitude where (38.2% and 39.1%) agreed to the statements, whereas for the IN/P instructors only (10.9% and 9.1%) responded positively, with a score of 4. Since

the comparison is between three groups of instructors, participants seemed more explicit in their attitude than when the rating would be solely for one group of instructors.

The next set of statements related to the constructs of the instructor's teaching quality and asked students about their EMI instructors' abilities to explain and communicate the course materials.

Table 6.19 Perception of students towards EMI instructor groups for the statement *(nationality) instructors' subject knowledge is excellent* (*N* = 110)

EMI instructors	Mean (SD.)	Median	SD% (1)	D% (2)	NS% (3)	A% (4)	SA % (5)
SA instructors	3.88 (.83)	4.00	.9	2.7	27.3	45.5	23.6
EG instructors	4.01 (.91)	4.00	1.8	3.6	19.1	42.7	32.7
IN/P instructors	2.93 (1.23)	3.00	20.0	10.9	33.6	27.3	8.2

Table 6.20 Perception of students towards EMI instructor groups for the statement *(nationality) instructors can clearly communicate the content of the lectures* (*N* = 110).

EMI instructors	Mean (SD.)	Median	SD% (1)	D % (2)	NS% (3)	A% (4)	SA% (5)
SA instructors	4.00 (.91)	4.00	.9	6.4	17.3	42.7	32.7
EG instructors	3.81 (.98)	4.00	1.8	9.1	20.9	42.7	25.5
IN/P instructors	2.38 (1.04)	2.00	24.5	29.1	30.9	14.5	.9

As shown in the above tables, responses given for two of the groups of instructors, that is, SA and EG, were approximately similar ratings with mean sores for Saudi instructors of (M = 3.88 and 4.0) and (M = 4.0 and 3.81) for Egyptian instructors. That is, students taught by SA instructors and EG instructors (75.4% and 68.2%) seemed to think that their instructors explained the course materials adequately and clearly communicated the content materials. For the IN/P instructors, although students'

ratings were negative, respondents rated the EMI IN/P instructors slightly higher than their ratings for the rest of the constructs. The statements pertaining to the construct of 'teaching quality' might show that explaining and communicating the content materials effectively takes precedence over the nationality.

Another construct used in this study was the constructs pertaining to the EMI through instructors' English to improve students' English orally and academically. Overall, responses to these statements ranged from moderate to negative attitudes to the three groups of instructors. In addition, the student's responses to the different groups of instructors varied, with the most notable being for IN/P instructors and EG instructors, as shown in Tables 6.21 and 6.22.

Table 6.21 Perception of students towards EMI instructor groups for the statement *(nationality) instructors' English helps me to improve my oral English* (*N* = 110)

EMI instructors	Mean (SD.)	Median	SD% (1)	D % (2)	NS% (3)	A% (4)	SA% (5)
SA instructors	3.64 (1.02)	4.00	3.6	10.9	22.7	43.6	19.1
EG instructors	2.24 (1.04)	2.00	27.3	37.3	21.8	11.8	1.8
IN/P instructors	1.75 (.96)	1.00	53.6	24.5	14.5	7.3	0

Table 6.22 Perception of students towards EMI instructor groups for the statement *(nationality) instructors' English helps me to improve my academic English* (*N* = 110)

EMI instructors	Mean (SD.)	Median	SD% (1)	D % (2)	NS% (3)	A% (4)	SA% (5)
SA instructors	3.69 (1.01)	4.00	3.6	10.0	19.1	48.2	19.1
EG instructors	2.43 (1.15)	2.00	23.6	36.4	17.3	19.1	3.6
IN/P instructors	1.93 (1.11)	1.00	50.0	21.8	14.5	12.7	.9

The results detailed above demonstrate that Saudi students rated instructors with different cultural backgrounds less favourably than SA instructors. For example,

62.7% and 67.3% of the Saudi respondents agreed that SA instructors' English could help them improve their English orally and academically. In contrast, 13.6% and 22.7% agreed to the EG instructors' statements, and 7.3% and 13.6% to the IN/P instructors. Students might believe that the EMI instructor is a possible means of improving their English skills, and when presented with the task of evaluating whether the instructor's English was beneficial to their English improvement, students may conclude that instructors with accented English cannot meet their expectations. This could reflect the students' preconceptions, including that an NNES would not assist them in improving their English language abilities. They might have believed that NES would be more beneficial to help develop their English skills.

The next construct concerns the nativeness represented by three statements in the following tables to determine students' preferences of NES instructors in general and to teach them EMI courses. The following statement is stated once since it did not ask about a particular instructor but rather about NES instructors in general.

Table 6.23 Perception of students towards EMI instructor groups for the statement *Native English speakers (e.g., American, and British) make the best instructors to teach content subjects* (*N* = 110)

EMI instructors	Mean (SD.)	Median	SD% (1)	D% (2)	NS% (3)	A% (4)	SA% (5)
NES instructors	3.68 (1.21)	4.00	8.2	7.3	23.6	30.0	30.9

Interestingly, about 60.9% of respondents believed that NES instructors make the best instructors for the content subjects. Responses revealed a relatively positive attitudes towards NES instructors, where students seem to value NES instructors albeit their having less exposure to them. The number of positive responses is surprising as being not as high as it was expected to be. About 23% of the respondents were not sure about the statements, and 15.5% disagreed. Such inconsistency may be due to their mixed attitudes toward NES instructors. It seems that students prefer NES instructors because of the accent and to improve their English language. In contrast, other students might think it is unrealistic to be taught by NES instructors in content materials, where the content is more crucial than the language. These points were

further discussed and confirmed by students' comments in the open-ended questions in Section 6.1.2.2.

Table 6.24 Perception of students towards EMI instructor groups for the statement *I prefer Native English speakers (e.g., American, and British) to teach me content subjects instead of (nationality) instructors* (*N* = 110)

EMI instructors	Mean (SD.)	Median	SD% (1)	D % (2)	NS% (3)	A% (4)	SA % (5)
SA instructors	3.55 (.95)	4.00	10.0	25.5	24.5	18.2	21.8
EG instructors	3.44 (1.29)	4.00	8.2	19.1	20.9	24.5	27.3
IN/P instructors	4.12 (1.04)	4.00	4.5	4.5	8.2	40.0	42.7

Table 6.25 Perception of students towards EMI instructor groups for the statement *I can learn subjects just as well from (nationality) instructors as from a native English instructors* (*N* = 110)

EMI instructors	Mean (Std.)	Median	SD% (1)	D % (2)	NS% (3)	A% (4)	SA% (5)
SA instructors	3.16 (1.30)	3.00	1.8	10.9	33.6	37.3	16.4
EG instructors	2.69 (1.25)	2.00	17.3	35.5	19.1	17.3	10.9
IN/P instructors	2.26 (1.15)	2.00	31.8	30.9	20.0	13.6	3.6

When nationality came into play, once again a clear pattern emerged. 40% of the respondents showed preferences to being taught by NES instructors instead of the SA instructors. However, as the comparison shifts to include the EG and IN/P instructors, the number of respondents strikingly increases to 51.8% and 82.7%, respectively, preferring to be taught by NES instructors instead of EG and IN/P instructors. For the second statement, the distinctiveness of the responses given is that it was the only item to which students responded less positively to Saudi instructors in terms of mean and median than other items (M = 3.1, MD = 3). The standard deviation also is higher than other statements, indicating less agreement among the respondents. About 53.7% of

Saudi respondents believed that learning the content material from SA instructors is just as beneficial as from the NES instructors, but the number decreases when the comparison turned to being between the EG and the IN/P instructors against NES instructors (28.2% and 17.2%, respectively).

The next construct explicitly asked about sharing L1 with students, since students' first language was one of the factors that influenced their responses, and this was confirmed in the interviews. Students showed preference for Arab instructors, and they might have expectations to find an Arab instructor in an Arab country. The IN/P instructors' statement is constructed to show if students liked them because they do not speak Arabic, that is, *I like the Indian/Pakistani instructors because they do not speak Arabic in the class.* Thus, if students agreed with the statement, it means they had a positive attitude to IN/P instructors because they speak English without switching to Arabic. On the other hand, if students disagreed with the statement, it means they do not prefer to have IN/P instructors because they do not share the L1 and switch into Arabic while lecturing.

Table 6.26 Perception of students towards EMI instructor groups for the statement *I like (nationality) instructor because they do(not) speak Arabic in the class* (*N* = 110)

EMI instructors	Mean (SD.)	Median	S% (1)	D% (2)	NS% (3)	A% (4)	SA% (5)
SA instructors	3.94 (.88)	4.00	.9	4.5	22.7	43.6	28.2
EG instructors	3.31 (1.03)	3.00	4.5	18.2	30.0	36.4	10.9
IN/P instructors	2.41 (.90)	2.00	12.7	49.1	22.7	15.5	0

The above table shows how Saudi students have preferences for Arab instructors because of Arabic as a shared language. Interestingly, despite the respondent's perseverance to improve English and their ambitions to have NES teach them, 71.8% and 47.3% preferred to have Arab instructors because they can speak Arabic. In contrast, and once again confirming the findings of the interviews, Saudi students negatively perceived their EMI IN/P instructors due to their inability to speak Arabic. What is striking in this table is that 71.8% of students favoured SA instructors and

47.3% preferred EG instructors, even though both instructors shared the same L1 (Arabic).

Country of origin as a factor

The explicit attitudes questionnaire was replicated three times, as previously mentioned for each group of instructors, with the instructor's nationality being stated each time. Since students have different attitudes towards each group of instructors, it is necessary to test if country of origin is a significant factor in students' evaluations. Thus, a linear mixed effect model was conducted by using the lme4 package in R (Bates et al., 2015), with attitude score as a dependent factor, subjects as a random factor, and instructor's country of origin (EG, IN/P, SA) as a fixed effect with EG instructors as a reference level. The model contained a random intercept for country of origin by subjects. Random slope cannot be fitted in this model because the data was not sufficient to estimate such a model. It was found that the model reached significance, meaning that it is successfully predicted attitude scores (Estimate = 3.162, SE = 0.052, *do* = 324.3, $t = 59.83$, $p < .000$). The model shows the variance in attitude scores towards groups of EMI instructors and finds that countries of origin predicted respondents' attitudes. These results shows that students have more significant positive attitudes towards SA than EG instructors (Estimate = 0.77, SE = 0.072, *ds* = 218, $t = 10.65$, $p < .000$). However, they showed a more negative attitude towards IN/P instructors than EG instructors (Estimate = -0.84, SE = 0.072, *def.* = 218, $t = -11.65$, $p < .000$) as shown in the table below (Table 6.27). When the reference group is changed to SA instructors, the results also showed that students have more significant positive attitudes towards SA than IN/P instructors (Estimate = 1.16, SE = 0.072, *df* = 218, $t = 22.30$, $p < .000$)

Table 6.27 Mixed effect model summary of country of origin on attitudes towards EMI instructors

Fixed effects	estimate	SE	df	t. value	*p*. value
intercept	3.16	0.052	324	59.83	.000
IN/P instructors	-0.84	0.072	218	-11.65	.000
SA instructors	0.77	0.072	218	10.65	.000

Note: because the country of origin has three levels, this table shows the result of only two levels with EG instructors as the reference level.

6.1.2.1 Correlation between implicit and explicit attitude

In order to examine the relationship between participants' implicit and explicit attitudes, a Pearson correlation was computed. I examined the relationship between participants' explicit attitudes towards SA, EG, and IN/P instructors with the three IATs: (EG_IN/P), (SA_IN/P), and (SA_EG). Results showed no significant correlations between the explicit attitudes questionnaire of the three groups of instructors and IATs except for the explicit IN/P questionnaire with the IAT (SA_IN/P). The correlation between explicit IN/P attitudes and implicit (SA_IN/P) scores was found to be statistically significant (r (108) = -.190*, $p < .05$, two-tailed). The following table (Table 6.28) summarises the results of the correlations between implicit and explicit attitudes.

Table 6.28 Correlation results between the implicit and explicit attitude of Saudi students towards EMI instructors

	Model 1 (*N* = 109)	**Model 2 (*N* = 109)**	**Model 3 (*N* = 110)**
	IAT1 (EG_IN/P)	IAT2 (SA_IN/P)	IAT3 (SA_EG)
SA explicit questionnaire	-	.094 (.33)	.035 (.71)
EG explicit questionnaire	.082 (.39)	-	-.051 (.59)
IN/P explicit questionnaire	.072 (.45)	**-.190 (.04) ***	-

Note: IAT= Implicit Association Test; SA=Saudi; EG=Egyptian; IN/P = Indian/Pakistani; Coefficient printed in bold are significant, (*$p < .05$).

The results indicated that participants' general explicit attitude toward the EMI instructors was not related to their implicit bias. However, the main exception of this

pattern is the significant weak negative correlation between students' conscious ratings of IN/P instructors and their unconscious attitude, demonstrated by the IAT (SA_IN/P), indicating that the lower students' explicit attitude towards IN/P instructors were, the higher their implicit attitude of the IAT of (SA-IN/P) scores were. This lack and the weak correlations between implicit and explicit attitude are also evidenced in previous studies in which implicit and explicit processes might proceed independently of one another and be typically seen as uncorrelated constructs or weakly correlated (Banaji & Hardin, 1996; Hofmann et al., 2005; Nosek, 2005).

6.1.2.2 Open-ended attitude questions

Two open-ended questions were asked in relation to students' explicit attitudes on the questionnaire:

1- What are three words that you think probably best describe EG, IN/P, SA instructors?

2- Do you prefer NES instructors to teach content subjects? Why?

The open-ended questions were asked to give participants a chance to write whatever comments they had about their experiences with EMI instructors. The first open-ended question was repeated three times across the three attitudinal questionnaires for each instructor. The second open-ended question was asked once and placed at the end of the three attitudinal questionnaires.

The qualitative responses for the first question (description question) were divided for each group of instructors into three responses: negative, positive, and neutral. The negative responses included negative descriptions of the instructors. The positive responses grouped positive descriptions about the instructors, and the neutral gathered the responses which had a neutral stance or where a student revealed positive and negative descriptions at the same time. A similar analysis was also applied to the second question (NES instructor's question). Positive, negative, and neutral opinions were also categorised in positive, negative, and neutral responses. Table 6.29

summarises the number of comments grouped in the three categories for the first open-ended question.

Table 6.29 Number of positive, negative, and neutral comments on groups of instructors SA=Saudi, EG=Egyptian, IN/P = Indian/Pakistani

Comments	SA	EG	IN/P
positive	96	64	24
Neutral	1	13	8
negative	12	33	75

For the first open-ended question, students' comments provide further support to the study's validity because they confirmed what had been discussed in the qualitative findings, that is, interviews, and in implicit and explicit results. Students in their comments echoed the reasons for preferring particular group of instructors over others. Accent, easy communication, and teaching quality stood out as recurrent reasons for positively perceived SA instructors. For the same reasons, moderate attitudes were revealed to EG instructors and negative attitudes to IN/P instructors.

Students also reported that instructors might be outstanding in their speciality but are deficient in their ability to communicate knowledge in English. For example, a student commented about the SA instructor, '*She is knowledgeable, but unable to transfer the information in English,'* or the 'difficult' accent reported about the IN/P, '*Smart, but her language is difficult to understand.*'

Negative views were revealed by using negative adjectives to describe NNES EMI instructor accented English, such as 'bad,' 'wrong,' 'not clear,' 'strange,' and 'difficult.' These negative views were expressed towards EMI instructors, particularly IN/P instructors who received negative comments from most students (n = 75 students) compared with EG instructors (n = 33 students) and SA instructors (n = 12 students).

Students in their negative descriptions raised the issue of intelligibility and comprehensibility of the instructors' speech when speaking English for teaching the content subjects. Their comments indicated that accent and pronunciation cause miscommunications in classrooms and can significantly affect students' intelligibility and comprehensibility. A number of students considered that as the primary obstacle they encountered. Some comments were also related to issues in class, for example, the instructors' competence in transforming the knowledge easily, students losing interest in the lectures, and having the feeling that they need lots of effort to understand the instructor. Table 6.30 shows some examples of students' short descriptions of NNES EMI instructors reported in the open-ended questions.

Table 6.30 Respondents' comments on EMI instructors for the open-ended questions

EMI instructors	Positive descriptions	Negative descriptions
Egyptian instructors	**P12** 'Capability of communicating the information efficiently.' **P26** 'Competent, good, comprehensible.' **P28** 'Practical, flexible, joyful.' **P32** 'Helpful, understandable, patient.' **P46** 'Smart, she is the best in communicating the information, full of energy.' **P49** 'She communicates the content subject easily, very competent.' **P55** 'Good accent, competent, easy to	**P9** 'Fast speaker, not clear, not helpful.' **P18** 'She is not clear in her pronunciation or explanation; she uses a traditional teaching method and does not use any technology.' **P25** 'She changed the pronunciation of English sounds.' **P35** 'She pronounced terms in a wrong way.' **P54** 'It is difficult to understand content terms during the lectures.'

	understand the content subject with her.' **P59** 'Kind, helpful, diligent.' **P62** 'She is fantastic and doing her best with us.' **P65** 'She simplifies and communicates the information easily.'	**P69** 'Not flexible, hard to communicate with or talk to.' **P73** 'She needs to improve English pronunciation and not to merge it with Egyptian accent.' **P74** 'Fast, little understandable, complicated.' **P98** 'Not helpful, not comprehensible, bad accent.''
Saudi instructors	**P2** 'They always have clear pronunciation, and the accent does not affect my understanding.' **P4** 'Clear, comprehensible, simple.' **P12** 'She is capable of explaining and communicating the information easily.' **P19** 'She can communicate the information easily.' **P53** 'Easy to understand – easy to communicate with – she communicates the information easily.'	**P16** 'Rigid, strict, indifferent.' **P65** 'The pronunciation is usually wrong, and she does not use English to explain the material.' **P64** 'She is knowledgeable but unable to transfer the information in English.' **P84** 'She is not very good with explaining the material.' **P49** 'Difficult, not qualified.'

	P66 'She tries her best to make me understand the material.' **P68** 'Saudi instructor communicates the knowledge in easy and understandable words, and the communication with her is convenient.' **P81** 'She is easy to comprehend, and she has a native-like accent and pronounces the words clearly.' **P108** 'Easy to talk with her; she can understand what we need quickly.' **P105** 'Clear, pronunciation, diligent.'	
Indian/Pakistani instructors	**P10** 'Diligent, respectful, and perseverant.' **P14** 'Cheerful, kind heart, competent linguistically.' **P17** 'Kind heart, helpful, she tries to simplify the content material as much as she can.' **P19** 'She is helpful, cares a lot to communicate the content material.' **P28** 'Kind heart, hardworking, honest.'	**P2** 'The accent is causing a barrier between us.' **P4** 'Her pronunciation is not clear.' **P6** 'It is difficult to understand her because of accent.' **P12** 'She has a thick accent and speaks very fast. She pronounces terms strangely, I knew some terms, but because of her

	P32 'Helpful, understandable, patient.' **P46** 'Smart, honest, doing her best to communicate the content.' **P49** 'Committed, organised, simple.' **P59** 'Helpful, diligent.' **P92** 'Patient, helpful, devoted.'	strange pronunciations, I failed to understand what she means.' **P18** 'She is not clear, and we find it difficult to talk with and understand her.' **P21** 'She is not competent, challenging to understand her. She is incapable of conveying knowledge effectively.' **P23** 'Complicated, difficult to understand, waste of time.' **P35** 'She is a fast speaker, and her pronunciation is not clear.' **P43** 'I need efforts to understand and focus with her.' **P63** 'Wrong pronunciation, incompetent, difficult.' **P93** 'I encounter difficulty following her; I need more time to understand what she is saying.'

Responses to the second open-ended question, about students' preferences of being taught by native EMI instructors, was characterised by ambivalence, and contradictory views were reported. The following table (Table 6.31) summarises the

number of comments grouped in the three categories for the second open-ended question.

Table 6.31 Number of positive, negative, and neutral comments on having NE instructors teach content courses

Comments	NES
Positive	69
Neutral	7
Negative	33

The comments provided about NES instructors reveal the students' preferences to have this group of instructors teaching them content courses. The majority of students (n = 69 students) have positive feelings towards the idea of being taught by NES as EMI instructors, whereas others have negative feelings (n = 33 students). Such inconsistency may be attributed to their mixed attitudes toward NES instructors. Despite students limited exposure to NES, a considerable number of students preferred NES instructors. They mostly believed that their English proficiency level would be improved through increased opportunities to practise English with NESs. They also indicated the benefit of acquiring the correct accent from an authentic source. In other words, they believed that NESs would allow them to learn both the course material and proper English simultaneously.

On the other hand, students disagreed with this notion, that is, being taught by NES instructors because they thought it was impractical for NNES learners to study content materials with NES instructors when the content is more important than the language. They revealed that EMI courses have a subordinate role in learning language, and the heavy burden is supposed to be on English courses. Therefore, they do not mind having NES in linguistic courses rather than in content courses. Some of the students revealed anxiety over communication difficulties with the NES instructors and expressing themselves effectively. They attributed that to either the students' lack of proficiency or NES instructors' who speak a different language. Some of them also believed that it was not possible to understand the subject materials with non-Arab

instructors. However, students directed their preferences towards Arab instructors, and based on their comments, students related being taught in their first language to improving understanding and better academic performance. They also found Arab instructors, 'easy to communicate with,' and this description was frequently reported by most students who participated in this study. Table 6.32 gives some examples of students' opinions about NES instructors.

Table 6.32 Respondents' comments on EMI NES instructors for the open-ended question

Positive opinions	**Negative opinions**
P1 'Yes, I think she will be better than others in communicating the information in proper English.' **P2** 'Yes, at least we can learn the content terms in correct pronunciation.' **P8** 'Yes, to improve the language as we will use English a lot in our fields.' **P28** 'Yes, because hearing the correct pronunciation will help to improve mine.' **P35** 'Yes, because I will have a lot of vocabulary that helps me understand the material and improve my language.' **P38** 'Yes, to improve my language as I would have to speak and practise the language with her.' **P41** 'Yes, I strongly prefer; I think she will be able to help us understand the material properly and clearly.' **P66** 'Yes, during my study, I need to hear clear and understandable words.' **P75** 'Yes, native speakers have more knowledge in explaining information due	**P5** 'No, because it is difficult to communicate in English, not in Arabic.' **P6** 'No, I need to learn the content material in Arabic, and my English will improve due to the English course.' **P11** 'No, I do not prefer because of the different languages, and at this stage of my study, I need to focus more on understanding the content knowledge.' **P29** 'No, I usually prefer Saudi instructors because they are better at communicating information. An American or British instructor will have a clear way of explaining the content material but may use difficult words that we may not understand because we are non-native speakers.' **P30** 'No because I do not have a good level of English to understand her.'

to their vocabularies, and easier to understand and communicate with.' **P79** 'Yes, and I strongly prefer that because the English terms will be clear and no mispronunciation. Unlike the Egyptian accent, Egyptian instructors focus on taking things in the most complicated way rather than taking them for the students' benefit, such as the exams. They put their efforts to formulate the most challenging exams, even if they cannot explain the lecture properly. However, they studied in Egyptian universities and used to take such challenging exams, which differ from how we study here.'	**P43** 'No. I prefer the Arab instructor because she can switch to Arabic for further clarity if we have problems in understanding.' **P46** 'No, I usually prefer a Saudi instructor because she has had a similar education. She is also sympathetic to our problems, whether they occur inside or outside the university campus. She also speaks my first language (Arabic), which would make it easier to share knowledge than if she spoke another language.' **P56** 'No, I prefer Arab instructors to understand the content knowledge adequately.' **P64 '**The most important is having subject expertise regardless of her language; however, communicating with Arab instructors would be easier.'

6.1.2.3 Summary of RQ1 analysis

Overall, the results of the first research question regarding students implicit and explicit attitudes, which were covered by the psychological experiments (IATs) and self-report questionnaires, indicated that students' hold different attitudes towards their EMI instructors based on the instructors' L1s and cultural backgrounds. A clear pattern emerged in evaluating EMI instructors. Results of implicit attitudes show that participants in this study indicated a moderate attitude towards SA instructors over IN/P instructors and EG instructors, and they associated SA instructors with positive teaching traits more than they did with IN/P and EG instructors. However, they

showed a slight preference for EG instructors over IN/P instructors, in which students showed a positive bias for EG instructors more than they did for IN/P instructors.

For the explicit questionnaires, Saudi respondents indicated a similar pattern. They evaluated the SA instructors positively, followed by the EG instructors, and the last was the IN/P instructors, who systematically received negative responses throughout the questionnaire items. The results of explicit attitudes with various constructs showed how students systematically preferred Arab instructors in terms of accent, liking, and teaching quality; they downgraded the IN/P instructors for the same constructs. Nevertheless, the constructs of nativeness and using EMI to improve English asserted the preconception of valuing the NES instructors over NNES ones and confirmed once again by the open-ended questions. The country of origin of the instructors was considered as a significant factor in predicting students' evaluations of those instructors. The relevance of the analysis is further supported by the open-ended questions, which validated what has been addressed in the implicit and explicit findings.

6.1.3 RQ2: Results of intelligibility, perceived comprehensibility, and perceived foreign accentedness

This section addresses the second research question. It details the results of the research tool in which the Saudi respondents listened to speech produced by six speakers, two from SA, two from Egypt, and two from India/Pakistan. To measure intelligibility, the Saudi respondents judged the speech (four sentences) produced by each speaker as true or false. Respondents were also asked to rate each speaker on a scale of (1-9) for perceived comprehensibility (1 = very difficult to understand, 9 = very easy to understand) and on perceived foreign accentedness (1 = very strong accent, 9 = no accent). The listeners' comprehensibility scores and perceived foreign accentedness ratings were averaged and used for the descriptive analysis in the following sections. Each will be discussed in turn.

Before presenting the results that directly address the research questions, the consistency of ICA ratings across listeners is reported. The inter-rater reliability through intra-class correlation coefficients (Cronbach's alpha) for the INT measures, PC, and PFA ratings were assessed for each speaker group, that is, the two EG speakers, the two IN/P speakers, and the two SA speakers. Table 6.33 summarises the reliability scores for each construct.

Table 6.33 Reliability measures for INT = intelligibility, PC = perceived comprehensibility, and PFA = perceived foreign accentedness for each group of speakers IN/P = Indian/Pakistani speakers, SA = Saudi speakers, EG = Egyptian speakers

Speech constructs	IN/P speakers	SA speakers	EG speakers
INT	.818	.910	.846
PFA	.683	.692	.669
PC	.581	.404	.360

The table above displays the reliabilities scores of each construct across the two speakers for each nationality. These results suggest that, within listener groups, listeners agreed with one another on the judgement of INT and PFA but not PC. The inter-rater reliability analysis of INT scores and PFA ratings for the listeners yielded high (for INT) to moderate (for PFA) alpha (Cronbach alpha), indicating that the listeners were reasonably consistent in their ratings. However, the PC scale yielded low reliability and it was observed across instructors of all nationalities. The reasons for low-reliability scores are unclear; however, they could be attributed to the large variety of rating scalar-rating lengths (DeVelle, 2008), which ranged from 1-9, allowing students to be more variable and flexible in their answers. The reliability scores of PFA with a similar scale have the same issue; consistency scores are moderate and not as high as INT scores.

6.1.3.1 Descriptive analysis

The initial analysis shows the descriptive statistics for all six speech samples on INT, PC, and PFA constructs. Mean scores, standard deviations, and 95% confidence intervals for all three groups of instructors are based on the ratings of all 110 Saudi

listeners. Table 6.34 presents the mean ratings for the three constructs of INT, PC, and PFA assigned by listeners as a whole to each speakers' group.

All three groups of speakers were found to be intelligible yet in varying degrees as determined by the sentence verification tasks, with the highest speakers (SA) having an intelligibility score of 70%, followed by the IN/P speakers with a score of 59%, and lastly the EG speakers with 54%. Listeners rated SA instructors' speakers as the easiest to understand (comprehensibility) and the least accented. Listeners found IN/P and EG speeches were similarly intelligible in terms of true and false judgement. Yet, there were different ratings in the PC scale, that is, EG as the most difficult to understand and IN/P speech as mild. Both speakers were given low scores regarding PFA, while being harsher with IN/P speakers.

Table 6.34 Descriptive statistics (M = mean, SD = standard deviations, CI = confidence intervals) for the construct of INT = intelligibility, PC = perceived comprehensibility, and PFA = perceived foreign accentedness assigned by listeners as a whole to each speakers' group

Speakers	**SA speakers**			**EG speakers**			**IN/P speakers**		
	M	**SD**	**95% CI**	**M**	**SD**	**95% CI**	**M**	**SD**	**95% CI**
INT	0.70	.38	0.63-0.77	0.54	.32	0.48-0.60	0.59	.37	0.52-0.60
PC	7.99	1.22	7.76-8.22	4.73	2.04	4.34-5.11	6.13	1.87	5.77-6.48
PFA	5.60	2.50	5.13-6.07	4.33	2.49	3.86-4.80	3.79	2.04	3.58-4.35

The above table shows some interesting trends. First, the SA speakers systematically rated higher than the other speakers in the three constructs, that is, the INT (M = 0.70), PC (M = 7.99), and PFA (M = 5.60). The second trend is that the EG speakers were assessed as less accented (M = 4.33) than the IN/P instructors (M = 3.79), although both were judged nearly equally on the INT judgements (M = 0.54 and M = 0.59, respectively). Moreover, the IN/P speakers were perceived as easier to understand (M = 6.13) than the EG speakers (M = 4.73) in terms of the PC ratings.

The third trend is that for all three groups of speakers, the means for PFA are lower than for PC, echoing Derwing and Munro (1997), Munro and Derwing (1995a), and Kang et al. (2015). They found that PFA is generally judged more conservatively than PC. In other words, NNES can have a strong accent while still being understandable.

The fourth trend is that the listeners' ratings for PC of EG and IN/P seemed to cover the full rating scale (1-9). From the standard deviation of this construct (see Table 6.34), variabilities can be determined, and they showed that one listener may deem a speaker perfectly comprehensible, whilst another listener may consider the same speaker completely incomprehensible. It is possible that listeners may have used criteria other than an accent to determine comprehensibility. Also, from the standard deviation, variability (SD) was small to PC of SA speakers, indicating that students not only rated SA speakers as easier to understand, but they agreed on that. On the other hand, there is less agreement concerning IN/P or EG speakers in terms of PC. The following sections give more details on each speech construct.

6.1.3.2 Intelligibility (INT)

The mean scores of INT construct for the three groups of speakers are presented in Figure 6.4.

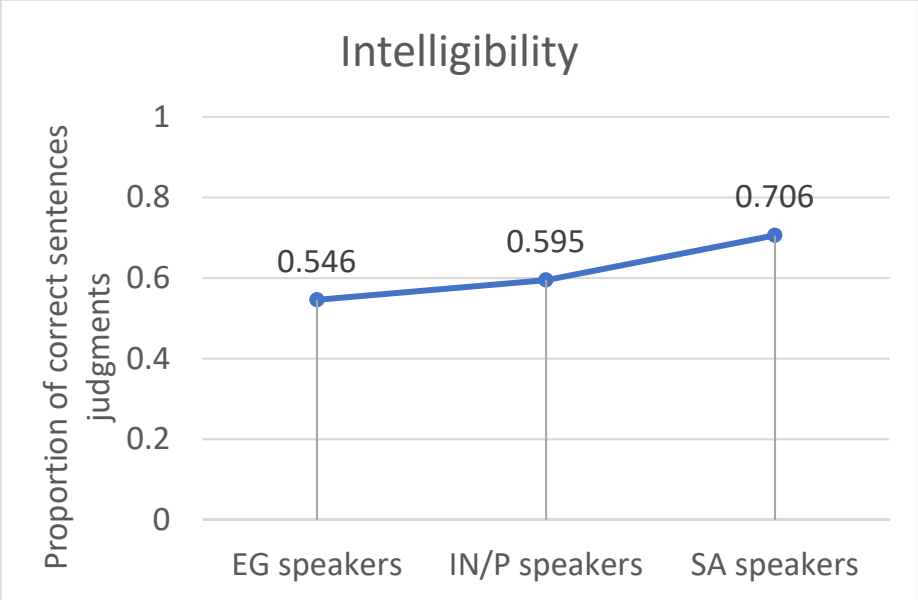

Figure 6.4 Comparison of INT across three groups of speakers. Higher scores indicate higher INT

Figure 6.4 shows averaged mean accuracy scores of students' judgment of True/False statements produced by three groups of speakers, namely SA, EG, and IN/P speakers. Higher values represented more intelligible speakers, which are SA speakers, with a mean of 0.7. Students found the other speakers, that is, IN/P and EG speakers, as moderately intelligible, with the IN/P speakers slightly higher than the EG speakers, with mean scores of 0.59 and 0.54, respectively. In order to find out if the differences between instructors are meaningful, the effect of country of origin was tested in a linear mixed effects analysis using the lme4 package in R (Bates et al., 2015). INT scores per speaker are the dependent variable, the subjects are a random factor, and country of origin (EG, IN/P, and SA) is a fixed effect with EG speakers as a reference level. Attempts were made to include speakers as a random effect for all models with random intercept and random slopes by subjects and speakers, but all the models (for INT, PC, and PFA) did not converge.[14] Therefore, the model for INT contained random intercept and slope for country of origin by subjects only. There was a significant effect of country of origin (Estimate = 0.546, SE = 0.031, df = 109.3, t = 17.605, $p < .000$), confirming the students' INT scores of speakers were affected by country of origin. In Table 6.35, the results show that students found SA speakers more intelligible when compared with EG speakers (Estimate = 0.16, SE = 0.02, df = 108.9, t = 7.74, $p < .000$). Interestingly, students found IN/P speakers more intelligible than the EG voices (Estimate = 0.04, SE = 0.02, df = 108.9, t = 2.31, $p < .000$) which is out of line with other results of the study, as shown in Table 6.35. When the reference group is changed to be SA speakers, the results also showed that the SA speakers were found as more intelligible than IN/P speakers (Estimate = 0.11, SE = 0.02, df = 108.9, t = 4.92, $p < .000$).

[14] When the models did not converge, I tried also to run the models with random intercepts only by subjects and speakers. The INT and PC converged but the PFA did not. I included the results of the converged models in the Appendix C3.

Table 6.35 Mixed effect model summary of country of origin on the INT

Fixed effect	estimate	SE	df	t. value	P. value
Intercept	0.54	0.031	109.3	17.60	.000
IN/P speakers	0.04	0.02	108.9	2.31	0.022
SA speaker	0.16	0.02	108.9	7.74	.000

Note: because the country of origin has three levels, this table shows the result only two levels with EG as the reference level.

6.1.3.3 Perceived comprehensibility (PC) and perceived foreign accentedness scales (PFA)

The ratings of PC were measured similarly by calculating the means. The mean value of PC and PFA for the SA, EG, and IN/P are presented in Figure 6.5, which shows comparisons between the three groups of speakers.

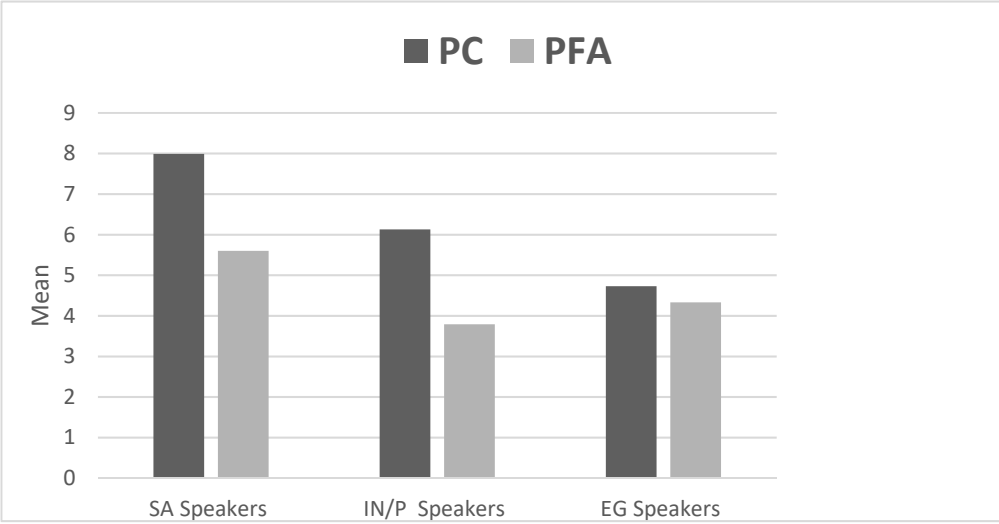

Figure 6.5 Comparison of PC = perceived comprehensibility and PFA = perceived foreign accentedness ratings across the three groups of speakers. For PC a higher score indicates higher comprehensibility (1 = very difficult to understand, 9 = very easy to understand), and for PFA a higher score indicates lower accentedness (1 = very strong accent, 9 = no accent).

Figure 6.5 presents the means of PC and PFA ratings assigned to the speakers as a whole by Saudi listeners. The mean value of PC for SA speakers was 7.99. In contrast, the mean values for the EG and the IN/P speakers were 4.73 and 6.13, respectively.

Thus, the speech produced by the EG speakers tended to be perceived as more difficult to understand than the IN/P and SA speakers for the Saudi listeners. Concerning the PFA, the mean values were 5.60, 3.79, 4.33 for the SA, IN/P and EG speakers, respectively. The Saudi listeners gave the highest ratings to the SA speakers, with a mean rating of 5.60. They gave the lowest ratings to the IN/P speakers with a mean of 3.79 and gave EG speakers a mean rating of 4.33.

Country of origin was also analysed to find out if it was a significant factor in affecting the two constructs. Another two models of linear mixed effects were conducted first with PC and then PFA scores per speaker as dependent factors, the subjects as a random factor, and country of origin (EG, IN/P, SA) as a fixed effect with EG speakers as a reference level. For PFA the model contained random intercept and random slope by subjects. However, for PC its model contained only random intercept because the model did not converge when I included random slope. For PC shown in Table 6.36, there was a significant effect of country of origin (Estimate = 4.73, SE = 0.16, df = 353, t = 29.73, p < .000), meaning that PC was successfully predicted by country of origin, and it revealed that SA speakers were found to be more comprehensible than EG speakers with (Estimate = 3.26, SE = 0.19, df = 548, t = 16.93, p < .000). Students also found IN/P speakers to be more comprehensible than EG speakers (Estimate = 1.40, SE = 0.19, df = 548, t = 7.26, p < .000), as shown in Table 6.36. When the reference group was changed to be SA speakers, the results revealed that SA speakers were found significantly more comprehensible than IN/P speakers (Estimate = 1.86, SE = 0.19, df = 548, t = 9.67, p < .000).

Table 6.36 Mixed effect model summary of country of origin on PC

Fixed effect	estimate	SE	df	t. value	P. value
Intercepts	4.73	0.16	353	29.73	.000
IN/P speakers	1.40	0.19	548	7.26	.000
SA speakers	3.26	0.19	548	16.93	.000

Note: because the country of origin has three levels, this table shows the result only two levels with EG as the reference level.

The model for PFA also reached significance (Estimate = 4.33, SE = 0.23, *df* = 109, *t* = 18.19, *p* < .000). The predictor of the country of origin explained variance in PFA scores. The significance shows that SA speakers were found to be less accented than EG speakers (Estimate = 1.26, SE = 0.38, *df* = 109, *t* = 3.27, *p* < .000). It was found that the IN/P speakers were more accented than EG speakers; however, it is not statistically significant (Estimate = -36, SE = 0.19, *df* = 108.9, *t* = -1.87, *p* > .064) (see Table 6.37). When the reference group was changed to be SA speakers, it was found that that SA speakers were less accented than IN/P (Estimate = 1.63, SE = 0.35, *df* = 109, *t* = 4.64, *p* < .000).

Table 6.37 Mixed effect model summary of country of origin on perceived foreign accentedness

Fixed effect	estimate	SE	df	t. value	P. value
Intercepts	4.33	0.23	109	18.19	.000
IN/P speakers	-0.36	0.19	108.9	-1.87	0.064
SA speakers	1.26	0.38	109	3.27	.0014

Note: because the country of origin has three levels, this table shows the result only two levels with EG as the reference level.

Correlation between the three speech constructs

Although the correlations between the speech constructs themselves were not a primary objective of the current study, they were calculated. The purpose of this analysis was to examine the relationship between the constructs. Thus, Pearson correlations tests were conducted. The correlations were carried out between the speech constructs themselves of INT, PC, and PFA. The results showed no significant correlations between these speech constructs except between PFA and PC of EG speakers. The correlation between PFA and PC of EG speakers was statistically significant, yet a weak one (r (110) = .304*, *p* < .001 (two-tailed).

Table 6.38 Matrix of correlation between speech constructs INT= intelligibility, PC= perceived comprehensibility, and PFA= perceived foreign accentedness

speech constructs	**INT (*N* = 110)**			**PC (*N* = 110)**			**PFA (*N* = 110)**		
	IN/P	**EG**	**SA**	**IN/P**	**EG**	**SA**	**IN/P**	**EG**	**SA**
INT	1	1	1	.24 (.80)	-.096 (.32)	.131 (.17)	-.155 (.10)	-.039 (.68)	.088 (.36)
PC				1	1	1	.177 (.06)	**.304 (.001) ***	.049 (.60)
PFA							1	1	1

When trying to find an association between INT, PC, and PFA, it was not possible to find any relationships except for a weak one between PFA and PC of EG speakers. Thus, the speech constructs of INT, PC, and PFA of the EMI NNES instructors coming from different nationalities were all independent dimensions except for a relationship between PFA and PC of EG. That is, the EG speakers who were perceived to have strong foreign accents were perceived to be more difficult to understand.

6.1.3.4 Summary of RQ2

The main findings of the research question 'How do Saudi student listeners rate EMI instructors in terms of intelligibility, perceived comprehensibility, and perceived foreign accentedness?' can be summarised as the following:

1. In terms of the three speech constructs, Saudi listeners differed in their assessments of the groups of speakers included in this study. The results showed that the country of origin of the speakers was a significant factor in predicting students' evaluations of these speakers, particularly for the construct of INT and PC. For PFA, the country of origin was found as a predictor for the evaluations of SA speakers.
2. When INT was considered, Saudi listeners judged SA speakers significantly the most intelligible. IN/P speakers were ranked second by Saudi listeners and considered significantly more intelligible than EG speakers.
3. In terms of PC and PFA, Saudi listeners rated SA speakers significantly higher than IN/P and EG speakers. Listeners perceived SA speakers to be

significantly the most comprehensible, followed by IN/P, and finally EG speakers. For PFA, having foreign accents was assigned to the three speakers, with SA being significantly the least accented when compared to the other groups of speakers.

6.1.4 RQ3: The effect of attitudes on the ratings of intelligibility, perceived comprehensibility, and perceived foreign accentedness?

This section of Chapter Six answers the third research question and details the potentiality of the relationship between the students' attitudes towards EMI instructors and the three constructs: INT, PC, and PFA of speakers' speech samples.

Explicit attitudes and speech constructs

In order to measure the correlation between explicit attitudes and speech constructs, the explicit attitudes towards EMI instructors are taken as the independent variable, and the INT, PC, and PFA are the dependent variables. The Pearson correlation test was applied. Three models were employed where, for example, the overall mean score of the SA attitudinal questionnaire was run with SA speakers' INT, PC, and PFA. The same analysis was also followed with the EG and IN/P explicit attitudes. Results showed no significant correlations between students' explicit attitudes and speech constructs except between EG instructors' explicit attitudes and EG speakers PC. The correlation between explicit attitude towards EG instructors and PC of EG speakers was statistically significant ($r(110) = .210^*$, $p < .05$ (two-tailed)). The following table summarised the correlation results between these variables.

Table 6.39 Correlation of students' explicit attitudes and students' ratings of EMI instructors of AC= intelligibility, PC= perceived comprehensibility, and PFA= perceived foreign accentedness

Explicit Attitude questionnaire	**Model 1 (*N* = 110)**	**Model 2 (*N* = 110)**	**Model 3 (*N* = 110)**
	INT	**PC**	**PFA**
SA explicit attitudes	.121 (.20)	-.032 (.73)	.030 (.75)
EG explicit attitudes	.094 (.32)	**.210 (027) ***	.171 (.07)
IN explicit attitudes	.134 (.16)	**.**170 (.07)	.041 (67)

The above table shows no relationships between Saudi students' explicit attitudes towards SA and IN/P instructors and students' INT, PC, and PFA of SA and IN/P speakers. However, the statistical analysis yields a weak association between Saudi students' attitudes towards EG instructors and students' PC of EG speakers. These results indicated that when the evaluations of EG instructors attitude improved, the PC increases and the EG speakers were considered easy to understand.

Implicit attitudes and speech constructs

The correlation between implicit attitudes and the speech constructs was also assessed, with the IATs serving as independent variables and the INT, PC, and PFA for each group of speakers serving as dependent variables. For example, the IAT (SA_IN/P) was run with speech constructs of INT for SA and IN/P speakers, and the IAT (EG_IN/P) was employed with EG and IN/P speakers' INT, and so forth for the rest of the constructs. The Pearson correlation test was applied. Results showed no significant correlations between students' implicit attitudes and students' ratings in terms of the speech constructs except between the IAT (SA_IN/P) and PC of SA speakers (r (109) = -.243*, $p < .05$), and between the IAT (EG_IN/P) and PC of IN/P speakers (r (109) = .213*, $p < .05$). The correlation between these variables were found to be statistically significant. The table summarising the correlation results is in the Appendix C4. PC appeared once again as the only construct that has correlations with students' implicit attitudes: (a) the first statistical analysis yielded a negative association between Saudi students' implicit attitudes, that is, IAT of (SA_IN/P) and

students' PC of SA speakers, indicating that the more negative students' implicit attitude of the IAT (SA-IN/P) scores were, the more positive their PC of SA speakers were; and (b) the second statistical analysis showed positive relationships between Saudi students' implicit attitudes of the IAT of (EG_IN/P) and students' PC of IN/P speakers. Hence, the more positive students' implicit attitudes of the IAT of (EG_IN/P) were, the more understandable an IN/P instructor was in terms of PC.

Figure 6.6 summarises the significant correlations between the variables in the current study, that is, between (a) implicit/explicit attitudes, (b) attitudes and the three speech constructs, and (c) speech constructs themselves of all the three instructors: Egyptian, Saudi, and Indian/Pakistani instructors.

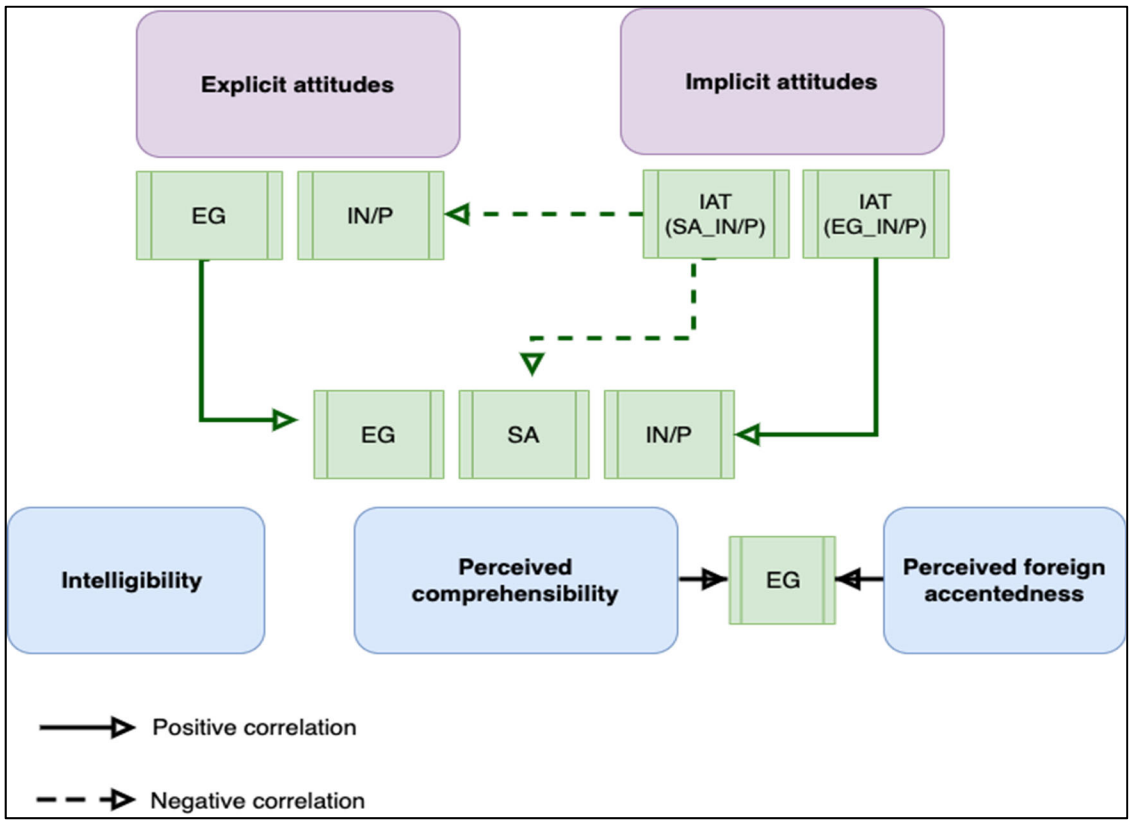

Figure 6.6 The significant correlation between implicit/explicit attitudes, between attitudes and the three speech constructs, and between speech constructs themselves. EG = Egyptian, SA = Saudi, IN/P = Indian/Pakistani

6.1.4.1 Summary of RQ3

Students from SA responded to stimuli produced by six speakers from three nationalities, Egyptian, Saudi, and Indian/Pakistan speakers, and the effect of students' attitudes was investigated on their evaluations of the three speech constructs, intelligibility, perceived comprehensibility and perceived foreign accentedness. The correlations indicated that the constructs and attitudes were not correlated, and where they are interrelated, it is only in a limited way. It was found that attitudes and these constructs were all independent dimensions, except (a) between EG explicit attitude and the perceived comprehensibility of the EG speakers, (b) between Saudi students' implicit attitudes of the IAT of (SA_IN/P) and students' perceived comprehensibility of SA speakers, and (c) between Saudi students' implicit attitudes of the IAT of (EG_IN/P) and students' perceived comprehensibility of IN/P speakers, yet all were very weak correlations.

6.1.5 RQ4: Demographic factors and students' implicit and explicit attitudes

This section answers the fourth research question and details the results of the research tool where the respondents provided background information regarding their age, gender, major, academic year, English proficiency level, present and past instructors, and media exposure. As was explained earlier, the respondents were required to provide demographic background to examine whether it may account for discrepancies in attitudes and speech constructs' ratings towards the three groups of EMI instructors selected for evaluations. In order to examine the influence of the selected demographic backgrounds on the respondents' attitudes and perceptions, multiple regression was employed to assess that effect on participant evaluations. The independent variables were English proficiency level, major, academic year, and media consumptions. Since these variables are categorical data, the data were re-coded as dummy variables for the purpose of using regression analysis. The discrepancy between the reference group and each dummy variable indicates the difference in students' attitudes and perceptions towards EMI instructors.

The dependent variables are the Saudi participants' implicit and explicit attitudes of the three groups of instructors separately. The total number of the regression models were six: three models for each pair of IAT, and three models for each attitudinal questionnaire of each group of instructors separately, as summarised in Figure 6.7. The following sections will be organised based on the dependent variables.

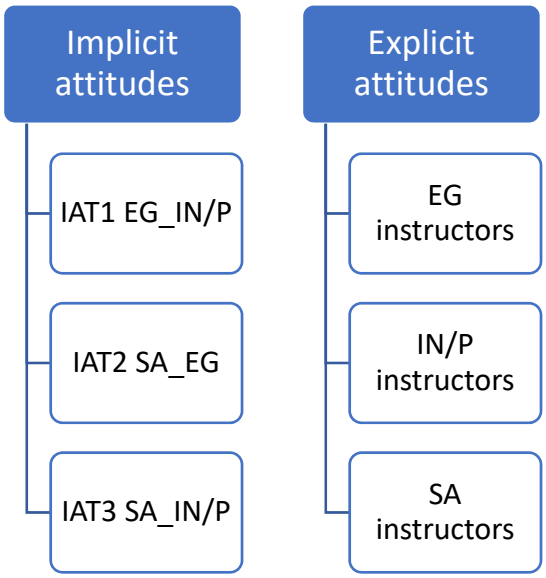

Figure 6.7 Attitudes dependent variables included in the study

6.1.5.1 Implicit attitudes

In order to investigate the influence of the demographic factors on students' implicit attitudes, three multiple regression models were employed on each IAT. Demographic variables (English proficiency level, major, academic Year, media exposure) were entered simultaneously into the regression equation with each IAT score as the dependent variable. Regression coefficients are displayed in Table 6.40. It shows that most of the demographic variables did not affect IATs' results, and none explained the variability in the IATs scores. The only exception is in the IAT (SA_IN/P), where the model was found to be significant ($F = 2.435, p\ (.015) < .05$), accounting for 18.1% of the variance in SA_IN/P scores ($R^2 = .181$), which can be considered a small effect, but it is statistically significant. The major (Applied Science) and high exposure with Arabic media were the predictors that better explained the variability in this particular

IAT scores of SA_IN/P (β = .383, *p* (.012) < .05) and (β = .179, *p* (.049) > .05), respectively. This indicates that Applied Science students and Arabic media high exposure students had more positive attitudes towards SA instructors compared to IN/P instructors than other students. Table 6.40 below shows the results in more detail.

Table 6.40 Regression models summary of demographic information (English proficiency level, major, academic year, and media exposure) on implicit attitude (IATs)

Variables	**EG_IN/P**			**SA_EG**			**SA_IN/P**		
	Beta	**t**	**Sig.**	**Beta**	**t**	**Sig.**	**Beta**	**t**	**Sig.**
English Proficiency Level									
Beginners/advanced	.015	.127	.899	.079	.693	.490	.035	.320	.750
Intermediate/advanced	.127	1.084	.281	-.041	-.363	.717	.137	1.268	.208
Major									
Medical/Computer	.160	1.038	.302	-.203	-1.372	.173	-.018	-.130	.897
Applied/Computer	.006	.037	.971	.034	.215	.830	.383	2.559	**.012**
Academic Year									
Second/Fifth Year	-.030	-.209	.835	.036	.266	.791	.063	.480	.633
Third vs. Fifth Year	-.069	-.451	.653	.067	.461	.646	-.021	-.150	.881
Fourth vs. Fifth Year	-.082	-.578	.565	-.157	-1.160	.249	-.018	-.138	.890
Media exposure									
A-media high/low	-.023	-.228	.820	-.074	-.773	.441	.185	1.995	**.049**
E-media high/low	.016	.157	.876	-.119	-1.207	.230	-.094	-.992	.308
R square	= .038			= .107			**= .181**		
F-ratio	= .437 *p* (.912) > .05			= 1.336 *p* (.228) > .05			**= 2.435 *p* (.015) < .05**		

6.1.5.2 Explicit attitude

In order to measure the influence of students' demographic factors on the explicit attitudes as a dependent variable, three multiple regression models were employed. Each regression was run separately for each group of instructors' explicit

questionnaire, with all independent variables entered simultaneously into the regression equation. The regression model of EG instructors was identified as statistically significant (F = 82.617, *p* (.009) < .05). The model explained 19.1% of students' explicit attitudes towards EG instructors. The regression coefficients in Table 6.41 below shows that 'English proficiency level' was the only predictor that better explained the students' attitudes towards EG instructors. Students who classified themselves as beginner and intermediate in English showed more positive attitudes towards EG instructors (β = .290, *p* (.009) < .05) (β = .219, *p* (.043) < .05) when compared with the reference group, that is, advanced level students. Thus, this predictor is identified as an influential variable to determine the attitudes towards EG instructors. Similarly, in the regression model for the IN/P instructors, the model was found to be significant (F = 2.053, *p* (.041) < .05), accounting for 15.6% of explaining the attitudes of students towards IN/P instructors (R^2 = .156). 'English proficiency level' was the only predictor that trended towards significance. However, it did not reach a fully significant effect (β = -.213, *p* (.057) > .05), in which beginner students had more negative attitudes towards IN/P instructors than other levels of students. For the regression model of the SA instructors, the model was not identified as statistically significant to explain students' attitudes. However, given the significant value for each variable, students who majored in medicine showed statistically significant with (β = -.301, *p* (.046) <.05, and revealed negative attitudes towards SA instructors when compared with the reference group (Computer Science). The other variables, such as academic year and media exposure, were not statistically significant for the three groups of instructors, as shown in Table 6.41.

Table 6.41 Regression models summary of English proficiency level, major, academic year, and media exposure on explicit attitude

Variables	EG instructor			SA instructor			IN/P instructor		
	Beta	**t**	**Sig.**	**Beta**	**t**	**Sig.**	**Beta**	**t**	**Sig.**
English Proficiency Level									
Beginners/advanced	.290	2.682	**.009**	-.062	-.541	.590	-.213	-1.929	.057
Intermediate/advanced	.219	2.048	**.043**	-.072	-.638	.525	-.109	-1.001	.319
Major									
Medical/Computer	.139	.986	.326	-.301	-2.022	**.046**	-.031	-.218	.828
Applied/Computer	-.137	-.920	.360	-.180	-1.143	.256	-.060	-.397	.692
Academic Year									
Second/Fifth Year	.219	1.693	.094	.077	.562	.575	.229	1.735	.086
Third/Fifth Year	-.018	-.129	.898	.005	.037	.970	-.155	-1.091	.278
Fourth/Fifth Year	.164	1.271	.207	.249	1.829	.070	.013	.100	.920
Media exposure									
A-media high/low	.068	.746	.458	-.013	-.131	.896	.045	.479	.633
E-media high/low	-.049	-.523	.602	.105	1.061	.291	-.100	-1.040	.301
R square	**= .191**			= .095			**= .156**		
F-ratio	**= 2.617 *p* (.009) < .05**			= 1.164 *p* (.327) >.05			**= 2.053 *p* (.041) < .05**		

6.1.6 RQ5 Demographic factors and Saudi students' ratings of intelligibility, perceived comprehensibility, and perceived foreign accentedness of EMI instructors

The dependent variables are the Saudi participants' ratings of the three speech constructs of speakers separately. The total number of the conducted regression models was nine, three models per construct, that is, INT, PC, and PFA of each group of speakers separately, summarised in Figure 6.8.

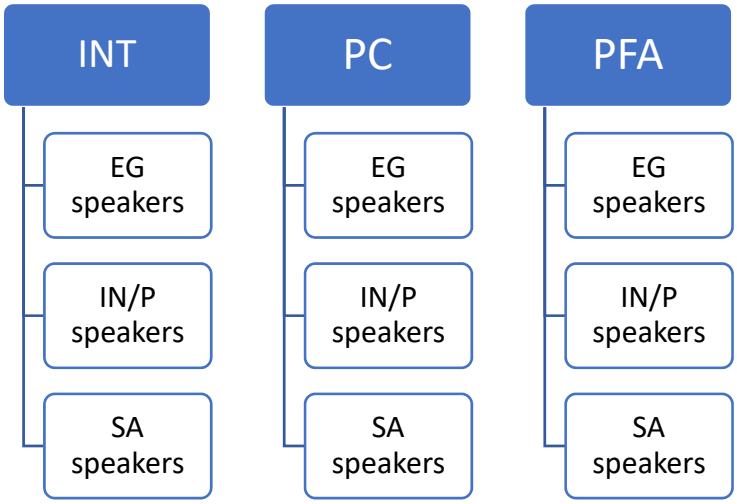

Figure 6.8 Speech constructs' dependent variables included in the study

6.1.6.1 Intelligibility, perceived comprehensibility, and perceived foreign accentedness

A similar analysis was conducted to examine the independent variables' influence on each speech construct separately. With regard to the INT, three regression models were employed, and each one was run separately for each dependent variable of each group of speakers. The regression model of EG speakers was identified as statistically significant for INT (F = 2.054, *p* (.041) < .05). The model explained 15.6% of students' judging of EG speakers. As shown in Table 6.42, 'English proficiency level' was considered an influential variable in determining the students' ratings of EG speakers in terms of INT. Beginner and intermediate students found EG speakers more difficult to understand than the advanced students (β = -.219, *p* (.050) <.05) and (β = -.271, *p* (.015) <.05), respectively.

Although the regression models for INT of SA speakers and IN/P speakers were identified as not statistically significant (F = 1.625, *p* (.118) > .05) and (F= 1.483, *p* (.165) > .05), respectively, 'English proficiency level' was found statistically significant for intermediate students. Students in the intermediate level found that SA and IN/P speakers as also more difficult to comprehend than the advanced students (β = -.316, *p* (.005) <.05) and (β = -.241, *p* (.034) <.05), respectively. 'Major' was also

found as a significant factor for determining students' INT of IN/P speakers (β = .337, *p* (.024) <.05). Students majoring in medicine found IN/P speakers more intelligible than Computer Science students. Nevertheless, this analysis indicates no significant difference between participants' responses, attributed to the academic year and media exposure, as summarised in Table 6.42.

Table 6.42 Regression models summary of English proficiency level, major, academic year, and media exposure on intelligibility

Variables	**EG instructor**			**SA instructor**			**IN/P instructor**		
	Beta	**t**	**Sig.**	**Beta**	**t**	**Sig.**	**Beta**	**t**	**Sig.**
English Proficiency Level									
Beginners/advanced	-.219	-1.985	**.050**	-.179	-1.595	.114	-.122	-1.080	.283
Intermediate/advanced	-.271	-2.477	**.015**	-.316	-2.846	**.005**	-.241	-2.154	**.034**
Major									
Medical/Computer	.262	1.827	.071	.202	1.382	.170	.337	2.299	**.024**
Applied vs. Computer	.128	.844	.401	.154	.995	.322	.110	.711	.479
Academic Year									
Second/Fifth Year	.066	.496	.621	.072	.539	.591	-.030	-.225	.822
Third/Fifth Year	.123	.869	.387	.016	.111	.911	-.039	-.268	.789
Fourth vs. Fifth Year	-.030	-.230	.818	-.035	-.261	.795	-.099	-.739	.462
Media exposure									
A-media high/low	.094	1.011	.315	.110	1.155	.251	.004	.037	.970
E-media high/low	.034	.353	.725	.036	.369	.713	.023	.234	.816
R square	**= .156**			= .128			= .118		
F-ratio	**= 2.054 *p* (.041) < .05**			= 1.625 *p* (.118) > .05			= 1.483 *p* (.165) > .05		

For PC, three regression models were also employed to determine the influence of demographic factors on students' ratings. The regression model of EG speakers was identified as statistically significant for PC (F= 3.122, *p* (.002) < .05). The model explained 21.9% of students' perception of EG speakers. As shown in Table 6.43, 'English proficiency level' and 'English media' were considered influential variables to determine the students' perceptions of EG speakers in terms of PC. In contrast to

the above result of INT, beginner and intermediate students in the construct of PC significantly evaluated EG as easier to understand (β = .415, *p* (.000) <.05) and (β = 294, *p* (.006) <.05), respectively. Another factor is English media, which was also found as a negative predictor association with PC ratings (β = -.335, *p* (000) < .05).

The regression models of SA speakers and IN/P speakers were identified as not statistically significant (F = 81.147, *p* (.337) > .05 and (F = 8951, *p* (.458) > .05), respectively. Given the significance for each value, the English media for SA speakers model trended towards significance, though it did not reach a fully significant effect (β = -195, *p* (.052) > .05).

Table 6.43 Regression models summary of English proficiency level, major, academic year, and media exposure on perceived comprehensibility

Variables	**EG instructor**			**SA instructor**			**IN instructor**		
	Beta	**t**	**Sig.**	**Beta**	**t**	**Sig.**	**Beta**	**t**	**Sig.**
English Proficiency Level									
Beginners/advanced	.415	3.909	**.000**	.000	.004	.997	.124	1.078	.284
Intermediate/advanced	.294	2.800	**.006**	-.120	-1.057	.293	.032	.284	.777
Major									
Medical/Computer	.047	.341	.734	-.092	-.620	.537	.154	1.030	.305
Applied/Computer	.025	.168	.867	-.085	-.539	.591	-.049	-.308	.759
Academic Year									
Second/Fifth Year	-.080	-.631	.530	.174	1.272	.206	-.065	-.471	.639
Third/Fifth Year	-.003	-.019	.985	.145	.982	.328	-.077	-.520	.604
Fourth/Fifth Year	.015	.116	.908	.074	.543	.588	.029	.213	.832
Media exposure									
A-media high/low	.029	.318	.751	-.161	-1.663	.099	-.077	-.793	.429
E-media high/low	-.335	-3.636	**.000**	-.195	-1.963	.052	-.138	-1.376	.172
R square	**= .219**			= .094			= .079		
F-ratio	**= 83.122 *p* (.002) < .05**			= 81.147 *p* (.337) > .05			= 8951 *p* (.458) > .05		

Three regression models were conducted for the PFA, and it was discovered that all independent factors were not statistically significant in explaining the students' perceptions of EG, SA, and IN/P speakers' PFA, with all *p* values over 0.05 except for the English media in the EG speakers' model. The English media high exposure was found as a negative predictor associated with PFA ratings of EG speakers (β = -.298, *p* (003) < .05). For the EG, IN/P, and SA speakers, this finding might imply that students at the institution under examination rated PFA of the three categories of speakers equally. Students' perceptions of EG, SA, and IN/P speakers are equivalent regardless of their English proficiency level, major, academic years, or media exposure (except for English media) (see Appendix C5 for PFA regression results table). The following figure (Figure 6.9) summarises the demographic variables measured in the current study and their impacts on the implicit/explicit attitudes and speech constructs' variables.

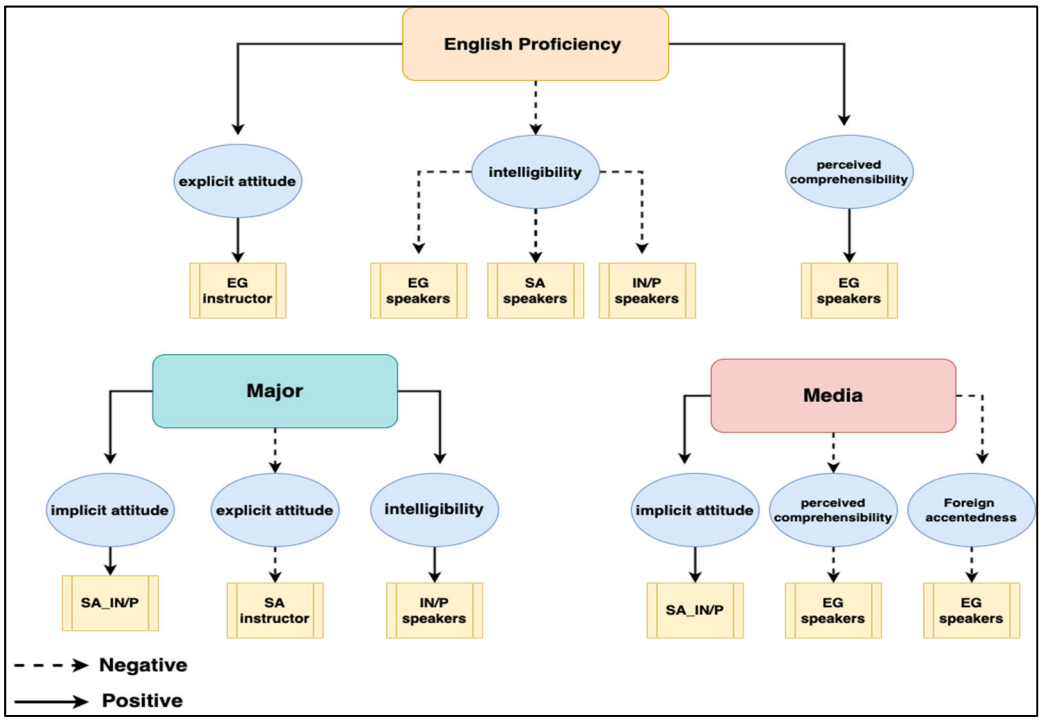

Figure 6.9 Summary of the demographic factors affecting implicit/explicit attitudes and the three speech constructs: intelligibility, perceived comprehensibility, and perceived foreign accentedness the variables of the study. EG = Egyptian, SA = Saudi, IN/P = Indian/Pakistani

6.1.6.2 Summary of RQ4 and RQ5

The main findings of the fourth and fifth research questions on the effects of demographic variables on Saudi students' attitudes and perceptions on the three groups of speakers can be summarised as follows:

1. Although the Saudi students' attitudes and perceptions differ according to the students' demographic variables (i.e., English proficiency level, major, academic year, and media), only English proficiency level, major and media were found to be significant predictors of participants' evaluations in the regression tests. The significance level did not appear in all dependent variables.
2. English proficiency level contributes to the models of explicit attitude, INT, and PC. In the explicit attitudinal questionnaires, the beginners and intermediate participants had a significantly more positive attitude towards EG instructors than advanced participants. Similarly, they rated the EG speakers highly in PC. However, the same participants, the beginner and intermediate participants, gave significantly lower ratings to the EG speakers in terms of the INT construct. For INT of SA and IN/P speakers, the intermediate participants gave them lower ratings than did advanced participants.
3. Major as a variable could be found to be having effects on the implicit attitudes, explicit attitudinal questionnaire, and the INT construct. For implicit attitudes, the Applied Science major was the predictor that better explained the variability in this particular IAT scores of SA_IN/P, indicating that Applied Science students had more positive attitudes towards SA compared to IN/P than other majors. For the explicit attitudinal questionnaires, medicine students gave significantly lower ratings to the SA instructors than those majoring in Computer Science. Medicine students evaluated IN/P speakers higher on the INT construct than Computer Science participants.
4. As far as media is concerned, high exposure to English was found as a significant factor in decreasing the EG speakers' ratings on the PC and PFA

constructs. Similarly, high exposure to Arabic media was found as a significant factor in predicting the implicit attitudes scores in the IAT of (SA_IN/P).

6.2 Chapter summary

The quantitative results provide insight into students' implicit/explicit attitudes towards NNES EMI instructors, how students rate those instructors objectively and subjectively in terms of the three speech constructs, and the demographic factors influencing their attitudes and perceptions.

The investigation into Saudi participants' implicit attitudes in the IATs demonstrated that they predominantly evaluated local instructors as possessing positive teaching traits when compared to the EG and IN/P instructors. While the EG instructors were associated with negative teaching traits when the IAT was between (SA_EG), they, on the other hand, were associated with positive teaching traits when the IAT was between (EG_IN/P). The non-Arab instructors, that is, IN/P received more negative biases, both in terms of two IATs, with SA and with EG instructors. A similar pattern was also found in students' explicit attitudes towards their NNES EMI instructors in the attitudinal questionnaires.

The study has also identified no relationships between Saudi students' attitudes towards SA and IN/P instructors and students' INT, PC, and PFA. However, the statistical analysis yields a weak association between Saudi students' explicit attitudes towards EG instructors and students' PC of EG speakers. The association was also found between implicit attitudes of the IAT (SA_IN/P) and PC of SA speakers and between the IAT (EG_IN/P) and PC of IN/P speakers.

The country of origin of EMI instructors was found as a contributing factor in the attitude score and speech construct experiments, which largely predicted students' responses. The Saudi listeners' responses to the six speakers varied depending on the country of origin of the speakers, and SA speakers received high and significant ratings from Saudi listeners in the three constructs. IN/P was significantly judged

more intelligible and perceived as more understandable than EG speakers. However, when PFA ratings were taken into account, there were no significant differences in the ratings of IN/P and EG speakers. Nevertheless, the three speakers were associated with 'foreign accents,' with SA being the least accented and IN/P being the most accented.

This research has also investigated several factors that might be responsible for disparities in students' responses. The independent variables that were explored here—English proficiency level, major, academic year, and media exposure —were not all significant predictors of implicit/explicit attitude and speech construct assessments of Saudi students. Students' academic year did not influence the answers in terms of attitudes and speech constructs. English proficiency level was found as a predictor of three of the dependent variables, explicit attitudes, INT and PC, followed by major, which was also found as a predictor of implicit attitudes. Lastly, media has been found as a predictor of the PC and PFA of EG speakers.

Chapter Seven: Discussion

The previous two chapters attempted to answer the study's research questions. The results of the qualitative data were discussed in Chapter Five, the implicit/explicit attitudes instruments and the three speech constructs experiments in Chapter Six. In each case, I highlighted these results in relation to the research questions. Since the research is mixed methods, the discussion of the current research integrates both phases, the qualitative and quantitative results. The findings show that the results obtained from the qualitative and quantitative data were mutually supportive, and the approaches complemented each other. The qualitative findings served as a starting point, allowing students to openly discuss their attitudes, as well as providing additional insights into where their attitudes came from. The quantitative results provided a measure of the students' implicit and explicit attitudes, and a measure of their subjective and objective perceptions of their instructors in terms of INT, PC, and PFA. Altogether these measures provided a holistic picture of the attitudes and perceptions of Saudi students to EMI NNES instructors in the Saudi context. The results of these measures will be discussed in light of the research questions and the related literature.

7.1. RQ1: Do Saudi students hold different attitudes (implicit and explicit) towards Arab NNES and non-Arab NNES instructors who teach content courses using EMI? And (if any) why?

In order to penetrate below the participants' level of conscious awareness, the implicit attitude measurement, the IAT, was employed in tandem with the explicit questionnaires to investigate and provide a comprehensive picture of Saudi students' attitudes to NNES EMI instructors. The overall results show that the Saudi respondents' evaluations of the three groups of instructors do not differ between the two evaluative instruments, that is, explicit, and implicit instruments. The Saudi

respondents follow a consistent pattern in their evaluation of the NNES EMI instructors.

The overall findings of the three IATs (SA_EG), (SA_IN/P), and (EG_IN/P), confirmed that the Saudi respondents generally prefer SA instructors over EG and IN/P instructors (in the IAT between (SA_EG) and (SA_IN/P), and prefer the EG over IN/P instructors in the IAT (EG_IN/P). The Saudi participants associated SA instructors with positive teaching traits (good English, clear pronunciation, understandable, supportive, flexible) more quickly than they did with EG and IN/P instructors. When the comparison was between EG and IN/P instructors, the participants associated EG instructors with positive teaching traits more quickly than they did with IN/P instructors. In line with social psychology research, the results inferred from the three D scores, which were calculated from the three comparisons, suggest that these implicit attitudes are more positive towards SA instructors in (SA_EG) and (SA_IN/P), and for EG instructors in (EG_IN/P); however, more they were negative towards IN/P instructors in all the three IAT tests.

Further support for this idea comes from a direct comparison of explicit attitudes, from both the attitudinal questionnaires or interviews, which indicated that Saudi participants have the most positive attitude towards SA instructors, moderate attitudes towards EG instructors, and the most negative attitudes towards IN/P instructors. Moreover, the explicit data shared similar themes within interviews and produced data that were complementary and supportive of the interviews. Various constructs were investigated, including accent, liking, teaching quality, shared L1, EMI, and nativeness. In terms of each group of instructors, in all these constructs, which were assessed using a 5-point Likert scale, students reported the significant superiority of SA locals over the other two groups of instructors and evaluated SA instructors distinctly higher than the rest of the EMI instructors. These findings are consistent with previous studies which have measured explicit attitudes. In EMI studies where students were explicitly asked about their perceptions of EMI NES and NNES/local instructors, they exhibited preferences for local instructors in certain traits in Turkish and Chinese contexts (e.g., Karakas, 2017; Qiu & Fang, 2019). The current research

has added more to the picture by demonstrating how students have not only displayed explicit preferences but also implicit bias in favour of local instructors over other NNES EMI instructors. I will examine the correlations between explicit and implicit results in relation to the psychological and sociolinguistic literature in the next section.

7.1.1 Correlations between explicit and implicit attitudes

Despite the matching results for implicit and explicit attitudes, there was no statistically significant correlations between them. The study found only one weak correlation between explicit self-report and implicit IAT attitudes towards NNES EMI instructors: a negative correlation was found between students' conscious ratings of IN/P instructors and their unconscious attitude demonstrated by the IAT (SA_IN/P), suggesting that the more negative students' explicit attitude towards IN/P instructors were, the more positive their implicit attitudes towards Saudi instructors in the IAT of (SA_IN/P) scores were. The lack of correlations for EG on explicit and implicit, and for SA on explicit and implicit could be an indication that these two types of attitudes might occur independently and that the instruments tapping into different phenomena, hence, were unrelated (Banaji & Hardin, 1996; Greenwald & Banaji, 2017). In terms of language attitudinal studies, the lack of correlations between explicit and implicit attitudes puts the current study in contradiction to some previous research that found a moderate statistical correlation (e.g., Pantos & Perkins, 2013; Rosseel et al., 2018) as well as the results from the extensive body of research examining implicit and explicit evaluations of a wider range of non-language related attitudinal objects (e.g., Hofmann et al., 2005; Nosek, 2005). Most prior IAT prejudicial studies have shown that explicit attitude and implicit attitude results are disassociated, and the former is more neutral and more cognitively controlled than the latter. The common interpretation for such disassociation between the explicit and implicit attitudes of previous studies is that whatever their unconscious attitudes are, respondents will explicitly try to express opinions that are more socially desirable. However, in this research on NNES EMI instructors, the results reveal that Saudi students do not use this control where both implicit and explicit negative biases are

found towards EG and IN/P instructors. Attitudes toward NNES EMI instructors with stated nationality seem to be less influenced by social desirability concerns. Thus, a possible interpretation may be connected to the IAT's structure, in which the 'NNES EMI instructor' could be viewed as an abstract entity that does not elicit strong implicit attitudes, that is, there is not a strong underlying prejudice. Implicit bias is usually uncovered in relation to highly sensitive topics. Greenwald et al. (1998) in their seminal work that introduced the IAT, note that the test can be valuable in detecting 'significant automatic associations' (p. 1465). Similarly, Nosek et al. (2007) explain that this test has the 'potential for revealing disquieting aspects about human minds' (p. 286). Thus, implicit attitudes may be more apparent in a domain where the subject is highly socially sensitive. In the current research, critical attitudes towards instructors appear to be socially acceptable as well as criticism of expatriate instructors. In other words, students are less concerned about appearing prejudiced than they are about the attributes of their ideal EMI instructors, no matter what backgrounds those instructors have.

The explicit attitudes towards instructors corresponded to the trend observed in the IATs. The interview data and open-ended questions support what is found in the implicit and explicit results. Individual interviews and group discussions revealed that it is not problematic to criticise expatriate instructors, specifically IN/P instructors, in front of other participants. The tendency of respondents to criticise expatriates in general is apparent since it does not seem to be subject to social censorship. A possible explanation can be attributed to the extensive availability of expatriates from the Arab regions and South Asian countries in the broader community where citizens consider themselves elite and have the tendency to criticise them. Chapter Two (Saudi context) shows how the social division between various social groups is visible, and the most significant division exists between the expatriate population as a whole and Saudi natives, with the latter enjoying a better social position than the majority of migrant groups. The social distance and the gap between Saudi citizens and expatriates (Abed, 2018) produces a self-perception of superiority for Saudis and inferiority for expatriates. This division has contributed to shaping negative attitudes towards groups

of speakers from these nationalities, and phrases such as 'stupid Indian' and 'funny Egyptian' are all often used widely within the Saudi community and stereotyped in the media. Unfavourable experiences and negative perceptions could have been carried over to higher education and attached to instructors from these backgrounds. The respondents' homogeneity contributes to this, as they come from similar cultures and attend similar public schools, suggesting that they value in-group solidarity, as shown in the next section.

7.1.2 Attitudes emerging from the in-group solidarity

Instructor's country of origin emerged as a crucial factor that had contributed to the students' attitudes towards their NNES EMI instructors, with a hierarchy emerging among the NNES instructors. In the previous literature, a hierarchy was noted between NES and NNES; however, in the present study, different levels were also found within NNES EMI instructors, which are equally useful and deserve special attention. At the top of the hierarchy is the local instructors in which the Saudi students' attitudes for all measures indicated the perceived superiority of local instructors. These evaluations of SA instructors as the preferred instructors can be explained through in-group membership, following the sociological theory SIT (Tajfel, 1981; Tajfel & Turner, 1986). SIT can help to explain why SA students rated SA instructors more positively than their peers from Egypt and India/Pakistan, as well as why Arab instructors were generally more preferred. The SA students and SA instructors are members of the same social groups and shared similar social identities. Saudi participants' attitudes towards the SA instructors show their relationship to the speaker from the same country of origin explaining why the SA instructors received higher ratings in the implicit experiments and explicit questionnaire, as well as in the speech constructs. SIT states that when people perceive the English accent as representative of their own speech group, they are more likely to have a feeling of an in-group belonging and identity, leading to higher self-esteem and favourable attitudes toward the speakers (e.g., Tajfel, 1981, 2010; Tajfel & Turner, 1986).

That was evident in both strands of data, that is, implicit, and explicit data. In the IATs' in-group membership can be used to explain these results. In the IATs a comparison was made between a category that matched participants with a category that did not. For example, SA instructor is a category that matched the participants, and EG instructor or IN/P instructor is a category that did not match the participants. The SA participants identified the SA instructor category as a member of the same social groups and identity, and this categorisation might also be used and extended to the EG instructor's category since the instructor belongs to the Arab category and shared the L1 and Arabic identity with SA participants, unlike the IN/P instructor. The results put this research in line with earlier implicit attitude research, which has usually found a higher positive implicit attitude toward in-group categories (Greenwald et al., 1998; Lane et al., 2007). In the body of IAT literature, implicit attitudes that are recorded in racially prejudicial studies are often used to compare a category that matches the participants (for example, white university students) with a different category (often black), and implicit attitudes reported towards the categories that do not match participants are generally negative. In terms of the EMI context, this will always be an issue at EMI universities, because most of these universities seem to recruit a mix of in-group and out-group instructors, particularly in contexts with more homogenous local students similar to the context under investigation.

With regard to the explicit measures, across the attitudinal questionnaires, interviews, and open-ended responses, in-group preference was evident in the students' comments and the evaluations of the constructs used in the questionnaires, such as accent, liking, teaching quality, shared L1, EMI. Each will be discussed in turn.

Accent

As regards accent, participants showed a moderate perception of EG instructors in comparison to IN/P instructors, who were rated the lowest, and they referred to the accents of EG and IN/P instructors in their comments as 'bad,' 'not clear,' and 'difficult,' suggesting that the accents of those instructors are likely to have a negative connotation. On the other hand, participants rated local instructors' the highest and

described their SA instructors' English as 'clear' and 'understandable.' Examples form the data include, '**I.RAN: *'I will be happy because it is easy to understand the accent as we shared a similar accent,*** and in the open-ended responses, '**P2:** *They always have clear pronunciation, and the accent does not affect my understanding.'* What is interesting is that students used the word 'clear' only when they were talking about their own in-group and the opposite 'not clear' to describe others. The Byrne's similarity-attraction paradigm (Byrne, 1971; cf. Deprez-Sims & Morris, 2010) could support those evaluations. According to this theory, people are attracted to those who are seen to be similar to them. The Saudi participants in this study may have been attracted to speakers with a Saudi accent since those speakers share similar cultural heritage and identities. The Saudi participants, on the other hand, did not show as much attraction to IN/P and EG instructors as they did to their own in-group since those instructors had distinct accents, and, in the case of IN/P, they came from different cultural backgrounds.

In-group solidarity is revealed in how participants preferred the instructors who shared similar backgrounds with them, and this contradicts the studies conducted by Jensen et al., (2013) and Hendriks et al., (2018, 2021). The former found Danish students were less satisfied with Danish instructor's English, and the latter found Dutch listeners were quite critical about the pronunciations of Dutch speakers. In these studies, in-group membership appears to be not as important as it was with students in the SA context, suggesting that each EMI context is different. Jensen et al. (2013) and Hendriks et al. (2018, 2021) studies included participant students from multilingual backgrounds, whereas in the SA context the students were homogeneous, coming from SA only, and had not had experienced multilingual learning environments, which in turn, might contribute to mitigating negative attitudes towards non-local instructors. Furthermore, Hendriks et al.'s (2018, 2021) study included NES samples among the stimuli, which could make participants negatively evaluate NNES speech samples. More will be said about the accent as one of the three speech constructs in Section 7.2.

Teaching quality

In this construct Saudi participants also perceived SA instructors to be better than EG and IN/P instructors. However, it is worth mentioning that despite the negative evaluations of IN/P instructors in the construct of teaching quality, these were the highest ratings of IN/P instructors compared to the rest of the constructs. Similarly, the EG instructors also received the highest evaluations in this particular construct. Qualitative responses confirmed this point about both instructors, in which students expressed statements about IN/P instructors such as *'***P19:** *She is helpful, cares a lot to communicate the content material effectively.'* For the EG instructors, most of the students' positive responses in the open-ended questions about EG instructors are closely linked with their teaching quality, such as *'***P49:** *She communicates the content subject easily, very competent.'* This might suggest that, regardless of students' attitudes, they recognise that largely these instructors have been hired for their expertise in a subject. With respect to the EMI context, teaching quality should be an essential criterion that can eliminate the country of origin and may outweigh other qualities an instructor should or might have. Instructors' qualifications and expertise in communicating the content materials should be a benchmark that surpasses whether or not instructors are locals, NES or NNES, or where they come from. The findings of the current study to some extent support the findings of Inbar-Lourie and Donitsa-Schmidt (2020) and Karakas (2017), which showed, for Israelian and Turkish contexts, respectively, that students value the instructors' qualifications and professionalism the highest. Students in their open-ended comments confirmed these results of the attitudinal questionnaire and expanded upon the meaning of teaching quality by appreciating their instructors for being knowledgeable, flexible, and sympathetic. For example, they wanted knowledgeable and competent Egyptian instructors, and flexible Saudi instructors who cared about their learning and sympathised with their problems. This is aligned with the study conducted by Hill et al. (2003) who also found that students in higher education value their EMI instructor's flexibility, organisation, efficiency, and sympathy for their particular needs and interests.

EMI

Further evidence for the in-group solidarity is revealed in students' ratings of the EMI construct where students rated their instructors based on their ability to improve students' English orally and academically. The ratings of SA instructors were higher than the other groups of instructors. In this construct, it was anticipated that the IN/P instructors would receive higher evaluations than the Arab instructors because they are proficient in English and speak solely English all the time, unlike the other two groups; however, this has not been the case. Instead, they received the lowest ratings, raising the issue of why the student did not find the English of IN/P instructors helpful and likely to enhance their own. This could be interpreted in two ways: they believed that instructors with accented English could not fulfil their expectations, and that this appears true of all NNES instructors. Students may have preconceptions and probably believed that the English of the NNES instructors would not be effective in improving their English, or students did not prefer English only in the classroom, which seems more likely. An extension of this is that Saudi students' goals do not seem to include acquiring 'proficient' English. If a student's goal is to be a doctor in SA, for example, and they do not really need proficient English, then why would they value a proficient English-speaking instructor? It appears that students in SA gave priority to intelligibility and comprehensibility of their disciplinary instructors over English proficiency. Thus, they prefer those instructors who use L1 to enhance and maximise their disciplinary learning.

7.1.2.1 Attitudes emerging from the shared L1 (Arabic background)

Participants in the interviews and those who responded to the statement in the questionnaire demonstrated a strong preference for Arab instructors. They ranked SA and EG instructors higher than IN/P instructors, indicating that instructors that can help with learning the content materials can be of considerable assistance. The qualitative interviews highlighted the importance of sharing the L1 to students, and students found shared L1 as a source of comfort and a sign of a better learning environment: '**I.RAN:** *I do care that the doctor is speaking Arabic …,'* '**F.FTM:**

Arabic instructors are explaining to us in Arabic in case we do not understand certain information but with Indians, we cannot especially if there are difficult terms,' and **'F.NOH:** *Indeed, Arabic instructors are explaining difficult content in Arabic, and this is really helping but is not possible with Indian.'* In many earlier studies, researchers consider sharing the same L1 with the students to be a benefit of being with NNES (local) instructors in ELT studies, such as Cook (2001) and Phillipson (1992), let alone in EMI courses when the content materials matter the most. Thus, the present results are consistent with previous studies in the literature on ESL and EFL in different contexts in terms of preferring local instructors with shared L1 over other non-local instructors (e.g., Ling & Braine 2007; Dy & Oladele, 2019; Ma, 2012). For the EMI context, it is in line with Qiu and Fang (2019) in the Chinese context and to some extent with Karakas (2017), where students also showed a preference for local instructors for the same reason, the shared L1. However, the current results are distinct from those of Inbar-Lourie and Donitsa-Schmidt (2013) in the Israeli context and Suviniitty (2007) in the Finnish context, where students preferred non-locals (NES) over local instructors. Moreover, the current result contradicts the study of Kym and Kym (2014) in the Korean context, where Korean students who participated in the study were more satisfied with EMI foreign instructors (NES and Chinese instructors) and the ability to comprehend was higher with those instructors rather than local (Korean) instructors. However, the Korean students in the study seemed to have had a better starting proficiency in English than the SA students. They have experienced EMI in many courses as well as stayed longer time in English speaking countries.

In Saudi tertiary education, EMI seems to be less applied by students and instructors, who both tend to use Arabic in their teaching process (see Alhamami & Almelhi, 2021b; Louber & Troudi, 2019), leading students to perceive English as a language of instruction in higher education as 'not normal' when compared to Arabic. The situation is exacerbated by Saudi students' low level of English proficiency (see Alfehaid, 2018; Alhamami & Almelhi, 2021b; AlZumor, 2019; Louber & Troudi, 2019; Shamim et al., 2016). In fact, according to the EF English Proficiency Index (2021), the Kingdom of Saudi Arabia is ranked 104th out of 112 surveyed countries,

placing it in the 'very low proficiency' category, which shows why both students and instructors transfer into Arabic, through translanguaging practices, inside the classroom despite the policy of English as MOI in these majors. This aligns with Louber and Troudi (2019) and Alhamami and Almelhi (2021a), who found that Saudi students preferred Arab instructors who switched to Arabic in the classroom because it was more convenient and practical for them. This preference for Arabs and a bias against certain instructors can further be attributed to the homogeneity of students in the SA context, where local students comprise the majority of students enrolled in public universities. This would, indeed raise the question of whether EMI is linked to the internationalisation of higher education in the SA context. Internationalisation and the desire to attract international students have been identified as driving forces behind EMI provision in the European context (Galloway et al., 2017), but they appear to play a lesser role in SA's higher education. Rather, the adopted Saudi EMI policy appears to be driven by the wish to improve students' English proficiency and the need to prepare them for the global job market.

The preference of a shared L1 also suggests that students do not experience classes entirely in English, and that translanguaging practices are common inside the classroom. Studies of actual EMI practices in Saudi classrooms, which are very rare, show that English is not the only language that is used as the medium of teaching (Shamim et al., 2016). Students and Arab instructors tend to use English and Arabic most of the time (see also Alhamami, 2021; Louber & Troudi, 2019; Shamim et al., 2016). The current findings confirm that EMI classrooms in SA do not appear to be English-only settings. The use of the L1 by Arab instructors was reported to be a useful pedagogical tool, particularly to clarify the meaning of difficult concepts and increase the students' comprehensibility. Despite the fact that the EMI policy is by definition monolingual, bilingual language practices appeared to be a common aspect of EMI classrooms, and the L1 was employed by instructors to support subject learning. By integrating the L1 into classroom practices, instructors and students challenge the monolingual ideology of EMI. In this study I have shown that there appears to be a conflict between a top-down policy that promotes monolingualism,

the SA government's goals that aim to improve students' English proficiency, and the students' consistent preference for receiving content in Arabic, delivered by Arab instructors rather than by English-only instructors. Students viewed the L1 as a useful tool for increasing their understanding of the subject matter and overcoming language challenges. This is consistent with studies such as Hopkyns et al. (2021), Karakas (2017), Kim et. al (2017), Rose et al. (2022), and Sahan et al. (2022). Nevertheless, it remains unclear how both languages are used in SA's EMI classes and to what extent the L1 and L2 are used by stakeholders. It is therefore necessary to conduct further research in order to understand EMI implementation and its actual practice in SA's classrooms.

Furthermore, according to a number of studies such as Macaro (2018) and Ryan (2018), it is essential for universities to organise a range of procedures to manage EMI programmes in higher education settings, including specific and explicit guidelines on the degree of English usage in the curriculum inside an EMI classroom. The present study revealed that different Arab instructors used Arabic and English differently, which might indicate that there were no university guidelines regarding the use of English and Arabic in the classroom. The Arab instructors thus appear to create their own way of achieving a balance between the knowledge and language through translanguaging techniques, as they used the L1 as a pedagogical strategy to enhance the comprehensibility of the material for their students. The results are consistent with research conducted in Turkey by Sahan (2021a) and in Thailand by Sameephet (2020), who also found that NNES EMI instructors' translanguaging and the use of the L1 were useful tools for their students. However, it is clear that this area of research needs to be addressed in the SA context. It is possible for university policymakers to put in place clear guidelines for instructors and students to avoid gaps that might be created between macro- and micro-level policies. This research did not investigate the institutional policy documents, which, if they existed, could have provided additional perspectives on the EMI policy in SA higher education.

Attitudes because of the Egyptian Arabic accent

Among Arab instructors, the sense of in-group is also revealed in the Saudi students' higher ratings of SA instructors than EG instructors. Saudi participants had moderate perceptions of EG instructors in the IATs and explicit measures, and it could be argued that students were hesitant and unable to take a definite stance when evaluating EG instructors in comparison to IN/P instructors, who were rated the lowest. Baker (1992) asserts, in his discussion on classical conditioning, '[a]attitudes towards stimuli may become more favourable if they are associated with pleasant events [d]iscos, football, popular music and videos' (p. 102). Egyptian people are associated in the Arab world with humour, old Arabic films, and Arabic music (see Chapter Two), and because of that one might anticipate the ratings of EG instructors to be higher; however, this did not happen as the SA instructors' in-group solidarity over-rode this factor. Students still favoured SA instructors over EG instructors, even though both instructors shared the same L1 (Arabic language), and both used Arabic in teaching the content materials. Students' lukewarm responses to EG instructors might be attributed to the EG Arabic accent, and a related EG English accent. In the interviews, students criticised the accent, such as *'***I.ATH:** *... Egyptians have a very bad accent'..... They have problems with their accent, they change words' pronunciations completely and pronounce them in their ways, the Egyptian ways.'* From the open-ended questions, a participant also commented*, '***P73** *she needs to improve English pronunciation and not to merge it with Egyptian accent.'* It seems likely that the EG Arabic accent transfers into their EG English accent and this is easily recognised. It seems that there are prejudices about EG Arabic accents that spill over into EG English, prompting students to express dissatisfaction with the EG English accent. This could lead students to perceive the EG accent as an additional burden that could negatively impact their learning process. However, students continue to favour those instructors, most likely due to their teaching ability and shared Arabic. When it comes to EG instructors, contradictory responses appeared. On one hand, there was a tendency to positively comment upon the knowledge and the appreciation of the shared L1 of the

EG instructors. On the other hand, the incorrect pronunciation or as respondents phrased it 'Egyptian pronunciation' was criticised.

Similarly, SIT can also be applied to EG instructors, who are considered to be both in-group and out-group members. In the Saudi context, students tended to create a hierarchy of instructors where, as previously mentioned, locals are on top, then EG instructors, and IN/P instructors are at the bottom. This resulted in a situation in which EG instructors were treated as 'in-group' members and as part of the same general cultural community, though still being treated as an Other or 'outgroup.' They were perceived as in-group when compared with IN/P instructors, and a particular feature of this is the shared L1, which is associated with Arabic identity. EG instructors were perceived as an out-group when compared with SA instructors. Within Saudi culture, native citizens seem to have a sense of privilege based on their nationality, allowing them to wield the majority of social power, resulting in a social distance from the migrant community (see Chapter Two). IN/P instructors were perceived as being less approachable and more challenging to interact with because of their different cultures and different language. At the same time, EG instructors might be perceived as more approachable owing to their linguistic and cultural similarities. This evidence of conflicting attitudes toward EG instructors is supported by the respondents' responses to interviews and open-ended questions.

7.1.3 Attitudes emerging from stereotypes

Saudi students were used to learning content subjects exclusively in Arabic from Saudi instructors at all levels of education until they entered tertiary education when they encountered multilingual instructors. Increased exposure to local instructors may foster a stereotype of SA instructors delivering subject courses in SA, notwithstanding the presence of NNES in the Saudi context. Stereotypes typically contain distinguishing traits, and the SA accent sets itself apart from other accents by the fact that other instructors are foreigners (e.g., NNES). The distinguishing traits of stereotypes need also to be available, and the greater exposure to Saudi instructors prior to tertiary education suggests that SA instructors are available and have the

potential to be incorporated into students' stereotypes of being EMI instructors. Having the stereotype that subjects are solely taught by SA instructors, as they had been in earlier levels of education, would make SA the default instructor. They may have considered that consciously or unconsciously to be natural.

On the other hand, IN/P and EG instructors were rated lower than the local instructors, particularly IN/P instructors who were more underestimated by the majority of participants in nearly all the methods used in this study. Participants tend to value instructors with 'good accents,' 'teaching quality,' and 'a shared L1,' and in their view IN/P instructors lacked these qualities. Seeing this group of instructors ranked low is not surprising given that participants can easily associate those instructors and their varieties with expatriates in the wider society in SA in particular and in the Gulf region in general where social stratification is visible (Hopkyns, 2017, 2020). Students are in frequent contact with EG and IN/P expatriates in their daily lives, which could conjure and extend their stereotypes to the instructors and their English. As commented upon in the interviews about the EG instructors (see Section 7.1.2.1) and about IN/P instructors, '**F.BYN:** *The worst accent ever, we had been with Indian instructors before, and we understood nothing … the first question we ask when we have an Indian instructor, 'how are we going to understand her?'* Similar comments were also registered from the open-ended questions, such as '**P12**: *She has a thick accent and speaks very fast. She pronounces terms strangely, I knew some terms, but because of her strange pronunciations, I failed to understand what she means.'* Students seem to agree on their comments regarding the IN/P instructors, particularly about the accent and its consequences. Characters from these nations were depicted in the media with stereotypical images (see Chapter Two), and as Jandt (2001) notes, stereotypes may readily breed prejudice against members of other groups and hinder communication between them. Students' judgements, on the surface, appear to have a connection to the speaker's speech or accents. However, speech stereotypes also 'include judgments about speakers' ethnicity, social status, enthusiasm, confidence, intelligence, academic success, and even their physical height' (Rubin, 2012, p. 12), assigning speakers inferior status or out-group membership (Lindemann, 2003). In this study,

instructors' perceptions in the classroom are likely to be influenced by the same social psychological dynamics. For example, it is possible that different accents of instructors may trigger students to form stereotyped impressions of those instructors, and thus students perceived them negatively as they pertain to their English, academic, and pedagogical abilities. Speakers with IN/P accents appeared also to be stigmatised and negatively stereotyped based on the social group they belong to in previous studies (e.g., Alshehri, 2017; Dragojevic & Giles, 2014; Jeong et al., 2021; Lindemann, 2005).

In a study of stereotypes and evaluations of English speech in Denmark, Ladegaard (1998) discovered that participants might have the ability to make discriminations between target language varieties. The study reached a conclusion that

> Even though the judges are not native speakers of English, we may assume some degree of familiarity with the accents employed in this experiment since they sometimes appear in the media. It is possible, therefore, that the subjects possess some kind of stored, *subconscious information*, based on previously acquired media-transmitted stereotypes. (p. 269, italics in original)

Hence, the present study suggests that the Saudi participants may also have followed a similar process and retained representations of those varieties of English and their speakers, and they may have utilised this information, whether consciously or unconsciously, while assessing their NNES EMI instructors, particularly the IN/P expatriates. The relevance of country of origin suggests that biased perceptions may exist in the SA EMI setting, affecting non-SA instructors who teach content subject courses. The notion of discrimination is very likely alive in the SA context and is supported by Louber (2021) (see Chapter Three, Section 3.1.5.2). This interpretation is corroborated by the implicit/explicit attitudes as well as the participants' ratings to the IN/P and EG speakers, where those speakers were rated the lowest objectively and subjectively in terms of implicit/explicit attitudes, INT, PC and PFA, (as will be discussed in the next section) and significantly less favourably than the local instructors. The results of this study have illuminated, though not in-depth, that

stereotypes and discrimination of expatriates are major problems in SA that warrant additional examination.

7.2 RQ2: How do Saudi student listeners rate EMI instructors in terms of intelligibility, perceived comprehensibility, and perceived foreign accentedness?

This question has been tackled by examining how Saudi students as listeners assess the speech produced by SA, EG, and IN/P speakers. The evaluation was carried out following the early work of Munro and Derwing (1995a, 1995b, 1999) in measuring three speech constructs: INT, PC, and PFA. Saudi listeners differed in their assessments of the groups of speakers included in this study in terms of the three speech constructs. The results showed that the country of origin of all speakers was considered a significant factor in predicting students' evaluations of these speakers. Surprisingly, the neat pattern which appears in the results of implicit/explicit attitudes as well as in qualitative data is violated in the speech construct experiments. The measures of INT and PC showed a difference in ranking for EG and IN/P instructors and located EG the last after the IN/P, suggesting that students had more difficulty understanding Egyptian voices than South Asian voices, which is out of line with the attitude results.

For the INT with True/False statements, Saudi listeners judged SA speakers significantly the most intelligible. The IN/P speakers were ranked second and considered significantly more intelligible than EG speakers. A similar pattern appeared in the scale of PC: the differences between the groups of speakers were significant, with IN/P speakers and SA speakers being perceived as more comprehensible than EG speakers.[15] In the implicit tests and explicit attitudinal questionnaires, the students showed a greater preference for Arab than non-Arab instructors, but in the ratings of INT and PC, the results contradicted this assumption.

[15] Nonetheless, the results from the PC should be interpreted cautiously since the internal reliabilities of this construct for the three groups of speakers were low (see Chapter Six).

The same IN/P instructors who were rated more negatively than EG instructors in implicit/explicit attitude measures, proved more intelligible and more comprehensible than EG speakers in the speech perception experiments. The different patterns may be explained by the less exposure to EG instructors speaking English inside the classrooms. It is possible, therefore, that Saudi listeners have less exposure to the English of EG instructors than the English of IN/P instructors, because they have only ever heard IN/P instructors in English. Therefore, more negative evaluations were attached to EG instructors once they speak English with an 'Egyptian accent.' This does not apply to SA speakers, despite the use of Arabic inside the classroom. Listeners showed tolerance towards SA, perhaps after immediately recognising them as Saudi. It can be concluded that since IN/P speakers were considered more intelligible and comprehensible than EG speakers, it seems as though students eliminated nationality from speech perception experiments; however, not for long. The presence of accent appears to have more influence on how IN/P instructors are evaluated on the PFA scale.

PFA tests if speakers are considered to have foreign accents. SA speakers were rated the least accented and IN/P speakers were the most accented. All accents were rated more harshly than INT and PC for the three groups of speakers. This is consistent with previous research that also found PFA was rated the more severely (see Derwing & Munro, 1997; Munro & Derwing, 1999; Yan & Ginther, 2017). The fact that students are exposed to varieties of English from EG, IN/P, and SA instructors has not led to a greater level of leniency: attending courses with NNES instructors and being exposed to different speech patterns did not seem to result in increasing evaluations of instructors' accents.

7.2.1 Evaluations come from familiarity and exposure

The EG and IN/P speakers reflected language varieties that were familiar to the participants from their environment. Therefore, in this particular context, country of origin can act as a proxy for this exposure. Students were asked about their exposure to different instructors and were, therefore, fully aware that the study was centred

around SA, EG, and IN/P instructors. Yet familiarity seems to influence their judgments negatively, as it did with IN/P and EG speakers, and positively, as it did with SA speakers. Although familiarity usually results in greater tolerance of accents, this does not seem to be the case in the Saudi context, probably because other factors are more dominant. This is consistent with the early seminal work by Gass and Varonis (1984) who initiated the discussion on familiarity, and studies that have indicated that listeners' familiarity with non-native English speech is among the factors influencing their evaluations of it either positively (e.g., Ballard & Winke, 2017; Winke et al., 2013) or negatively (e.g., Nejjari et al., 2012) as it seems not advantageous to the speaker if the listeners are familiar with an accent, because they will give the speaker lower ratings (Nejjari et al., 2012) and both effects (negative and positive) exist in my data.

A number of studies have demonstrated that occasionally local instructors and their variety of English are easier to comprehend when compared with other varieties, (e.g., Major et al., 2002; Smith, 1992; Smith & Rafiqzad, 1979). SA speakers were evaluated significantly as the most intelligible speakers. This finding supports the literature, that suggests 'matched interlanguage speech intelligibility benefit,' according to which listeners who share L1 with the speaker have an advantage over listeners who do not share the same language (Bent & Bradlow, 2003; Munro et al., 2006). It may be that such an effect is present in my data in terms of both shared L1 and shared accent. In the case of the Saudi listeners, the results provide evidence of a matched interlanguage speech intelligibility benefit with SA speakers since listeners share with them the mother tongue and the Saudi dialect. The match of interlanguage speech intelligibility between Saudi listeners and EG speakers does not appear to apply despite the shared L1, as also seen in Algethami et al. (2011) and Munro et al. (2006), where they could not find the effect of an intelligibility benefit when speakers and listeners have the same native language background.

7.2.2 Evaluations emerging from stereotypes

Despite being ranked as more comprehensible than EG speakers, IN/P speakers were rated lower in the construct of PFA than EG speakers, yet this difference did not reach the significance level. Even though it is not a significant result, it is still striking because the similar IN/P speakers who were judged as being intelligible and easy to understand, were evaluated as more accented than EG speakers. These findings showed that IN/P speakers were perceived as more accented, not based on their PC or INT, but instead based on other associations with their nationality. The listener's evaluations may be influenced by the stereotypes that were activated by the accent. Students on different occasions in both strands of data negatively evaluated IN/P instructors and made comments such as, '**P2:** *the accent is causing a barrier between us,'* '**P4:** *her pronunciation is not clear*,*'* and '**P6:** *it is difficult to understand her because of accent.'* Despite such comments, students identified speakers with an IN/P accent as being intelligible in an objective measure of INT. Therefore, it seems likely that these reactions were driven by some form of subconscious social evaluation. Addressing this question could be related to linguistic stereotyping, which could have played a role in listeners' evaluations. Listeners naturally assign speakers with their supposed social group membership and then rate them according to the social group's stereotypes, with the accent often being the first component of speech that listeners notice (Yan & Ginther, 2017). As previously discussed in Section 7.1.3, listeners make evaluations that appear to be related to the speaker's speech. However, these evaluations are more associated with speaker's ethnicity and L1 backgrounds (Rubin, 2012). Listeners attach stereotypes to speakers based on signs, including country of origin, race, and ethnicity based on previous attitudes (Kang & Rubin, 2009).

Taken together these findings from the speech constructs suggest that IN/P and EG speakers are more prone to be judged low on perception measures compared to SA speakers. They are associated with negative connotations owing to their sounding different and strange when compared to SA speakers. In studies that include native varieties (e.g., Hendriks et al., 2018, 2021; Inbar-Lourie & Donitsa-Schmidt, 2013,

2020; Karakas, 2017; Kym & Kym, 2014; Qiu & Fang, 2019; Suviniitty, 2007), the native varieties typically occupy the high status with uncontested ideologies putting non-native English varieties on a lower level. In this study, it is demonstrated that these ideologies are also visible where levels have been discovered among NNES varieties, in which linguistic variety status serves a utilitarian role by providing power to the high-status variety and its speakers. On the other hand, people who use a low-status variety of language in their daily lives often experience discrimination and bias (e.g., Kircher & Fox, 2019). In the current study, since the participants are all from SA, they are very likely to associate SA English and its speakers with a higher status compared to IN/P and EG speakers and their Englishes.

This could have an implication for English-medium instruction in higher education in SA, and other contexts, particularly those with similar configurations of instructors, such as Gulf countries. The students' evaluations of the speech constructs could be a result of attitude and negative perceptions, as in the case of EG speakers, where a significant correlation exists between the constructs of attitudes and PC, and others as demonstrated through the following research question.

7.2.3 Evaluations emerging from native speakerism

Although NES instructors were not included in the study, I argue that an underlying native speaker ideology contributes to lower evaluations of NNES instructors. The data on speech constructs, particularly PFA, revealed harsh evaluations of all NNES speakers, even when the speakers were intelligible and comprehensible. Listeners seemed to think that having a non-native accent was enough to explain any problem or dislike, a phenomenon Derwing and Munro (2014) refer to as scapegoating.

Likewise, the data from the open-ended questionnaires and interviews showed a preference for NES instructors (even when they were not present). NNES instructors are evaluated in accordance with NES norms and native speaker accents as the benchmark for comparing different instructors' accents. The notion of 'correct' English could have partly contributed to the lower ratings of accents of IN/P, SA and

EG instructors, with the low evaluations of Arab instructors' accents mitigated by their ability to switch to Arabic. Comments from the interviews indicate that the 'native speaker myth' (Phillipson, 1992) and the idealised hegemonic conception of native speakers associated with inner circle English continue to captivate students (Boonsuk et al., 2021). This has extended from ELT to EMI so that even in non-language-focused contexts, NESs are assumed to be superior instructors.

Students' critical evaluations of NNES EMI instructors with NES standards in mind, placing emphasis on instructors' accents, can negatively impact the self-image of NNES EMI instructors who use L2 to deliver the content material. This could in turn affect their self-efficacy in teaching through EMI. For example, when NNES instructors pronounce certain terms incorrectly in English or struggle to navigate difficult concepts, their self-image of their professional status may suffer, and their teaching abilities might also be questioned by their students.

The native models have become so thoroughly entrenched and imprinted in the minds of students who are NNES, that they now function subconsciously (Seidlhofer, 2011). In spite of being widely criticised in the literature, native speakerism continues as a notion originating from assumptions about the West's superiority and about who qualifies as a proficient user with a native-like accent. This is evident in the racialisation of the instructors and the association of 'whiteness' with NES English (as can be seen in section 5.2.2), which could be considered as a real concern in relation to the recruitment of NNES EMI instructors in this context. Furthermore, prejudices and preconceived notions about NNES instructors, similar to those for IN/P instructors in the current study, although currently being challenged in the field of ELT, necessitate additional research on the promotion of unbiased and equal recruitment practices in EMI settings.

7.3 RQ3: Does the presence of students' attitudes affect their ratings of intelligibility, perceived comprehensibility, and perceived foreign accentedness of EMI instructors?

The current study in which EMI students from SA responded to stimuli produced by six speakers from three nationalities, investigated the effect, if any, of students' attitudes on their evaluations of speech constructs, that is, INT, PC, and PFA to establish a link between these variables. It was found that attitudes and these constructs were all independent dimensions, except (a) between EG explicit attitude and the PC of the EG speakers, (b) between Saudi students' implicit attitudes of the IAT of (SA_IN/P) and students' PC of SA speakers, and (c) between Saudi students' implicit attitudes of the IAT of (EG_IN/P) and students' PC of IN/P speakers. The significant correlation between EG explicit attitudes and PC of EG speakers suggests that when the evaluations of EG instructors attitude increases, the PC increases, and the EG speakers were considered to be easy to understand and this is in line with the study by Sheppard et al. (2017), who found attitudes towards nationality as a significant factor that can influence listeners' PC.

Once again PC appeared as the only construct correlated with implicit attitudes. The results suggest that (a) the more negative students' implicit attitudes of the IAT (SA-IN/P) scores were, the more positive their PC of SA speakers were, (b) the more positive the students' implicit attitudes of the IAT of (EG_IN/P) scores were, the more positive the PC scores of IN/P instructors. The latter correlation appears to be unjustified; however, it may be related to different results of attitudes and speech constructs of EG instructors, that is, more positive attitudes towards EG instructors than N/P instructors, and lower PC of EG speakers than IN/P speakers. None of these findings, however, are fully supported by previous studies, and they require more research, since little is known about the impact of implicit attitude on the speech constructs. The question of whether attitude has impacted the ratings of the speech constructs was not fully supported in this study, and this could be due to the complexity of attitudes, especially as they relate to speech constructs. It is difficult to

determine whether or not they are original variables influencing participants' evaluations. Nevertheless, the PFA is following the same trend as the implicit and explicit attitudes. That is, positive attitudes are revealed towards SA instructors, followed by EG instructors and then IN/P instructors, who were negatively evaluated. In terms of the speech constructs (INT and PC), SA speakers were judged the highest, followed by IN/P speakers; however, in PFA the same patterns of attitudes were retained. Thus, it can be said, since attitudes are a latent component, it cannot simply be viewed as the most predominant element influencing participants' assessments of speech constructs. In an experimental situation, the influence of attitudes on students' evaluations could be downplayed because participants are paying more attention and performing at their best and, therefore, unaffected by attitudes toward varieties of English and their speakers as would be the case in a real-life context.

There might be other criteria, that, in addition to attitude, have played a role in determining students' evaluations of speech constructs. Linguistic and other non-linguistic factors could have played a role in the scores for the three speech constructs. Linguistic factors related to the phonological features of the speakers might have had an impact on how students evaluated those constructs. Thus, it is suggested for future study, particularly in the SA context, to investigate how Saudi students as listeners evaluate speakers from these backgrounds by focusing on the speech production of those instructors. Besides attitudes, in terms of non-linguistic factors, individual learning styles, learners' listening abilities, background knowledge, and motivation, are often considered important in evaluating these constructs (Siegel, 2020). In the current study, students' attitudes towards their instructor were not the only factor contributing to students' evaluations of their instructors in terms of the three speech constructs; however, it remains among the most tangible aspects. For instance, in the case of IN/P instructors when compared with EG instructors, the participants' higher ratings of INT and PC of IN/P speakers, which was objectively and subjectively reported by the majority, shows that, at least in the case of IN/P speakers, attitude appeared as a determinant in favouring or disfavouring a specific instructor. The speech constructs experiments clearly demonstrated that these Saudi participants did

understand English when it is delivered by IN/P instructors in particular, yet such instructors remained underestimated, resulting in their ratings decreasing in terms of PFA. It can be said that this study partially contradicts the study of Kutlu et al. (2020), who found that attitudes of perceived ethnicity had a significant impact on listeners' speech perceptions notably the scores of the two constructs, INT and PFA.

The research concludes that even if Saudi participants expressed negative attitudes towards a certain instructor, this did not always mean that they are unable to comprehend them. Furthermore, the results of this study indicated that a favourable attitude did not necessarily entail high intelligibility and comprehensibility. There was a more favourable attitude towards EG instructors than IN/P instructors, though they were rated as being less intelligible and less comprehensible than IN/P speakers. Therefore, listeners' language attitudes need to be carefully examined before reaching a conclusion, particularly when it comes to the speech constructs. For example, listeners may react adversely to particular accents, and thus declare them to be incomprehensible even though the accent does not impair their intelligibility.

7.3.1 Correlations between the three speech constructs

Potential correlations between the speech constructs themselves were also tested. It was found that the INT, PC, and PFA were different and partially independent constructs. A correlation was found for PC and PFA of EG speakers. That is, the EG speakers who were evaluated with strong accents were perceived to be more difficult to comprehend. This is in line with studies such as Munro and Derwing (1995a), who found NNES accent presented difficulty for listeners in terms of PC of NNES speech. The presence of the PFA of EG speakers did not correlate with INT of EG speakers, which also confirms Munro and Derwing's (1995a) conclusion that PFA evaluations are poor predictors of INT. Accentedness does not imply incomprehensibility but has a tendency to be overemphasised owing to its perceptual sensitivity (Derwing & Munro, 2009). The current study did not find correlations between INT and PC for all groups of speakers. Thomson (2018) reviewed L2 pronunciation research and concluded that INT and PC are closely related. However, there was no clear trend

between INT and PC in this research, aligning with Kim (2008) and Matsuura's (1999, 2007) findings that the L2 listener's judgements of INT and PC often did not correlate strongly. A possible explanation for the independence of these constructs could be the students' belief in the presence of a foreign accent. In other words, EMI students might have evaluated the instructors based on their pre-existing beliefs about the accents of those instructors regardless of whether or not the instructor's speech was comprehended. As it turned out, the speakers with the stronger accents were actually more intelligible than the speakers with the lesser accents. These results are also consistent with previous research by Munro and Derwing (1995a), which demonstrated that INT, PC, and PFA are different and partially independent constructs. The implications for the EMI contexts are that instructors' accents do not affect the intelligibility and comprehensibility of the content materials, and the EMI instructors need to be less concerned about their accents when explaining the content materials.

7.4 RQ4: What demographic factors affect Saudi students' implicit and explicit attitudes towards EMI instructors?

7.5 RQ5: What demographic factors, besides attitudes, affect Saudi students' ratings of intelligibility, perceived comprehensibility, and perceived foreign accentedness of EMI instructors?

This section aims to summarise the findings of how the demographic variables of Saudi participants influence their evaluations of different EMI instructors. The discussion of the fourth and fifth research questions is integrated since similar independent variables were used in determining Saudi students' attitudes and perceptions towards NNES EMI instructors.

The independent variables that are explored here—English proficiency level, major, academic year, and media exposure—are not all significant predictors of attitude and perceptions of Saudi students. Not surprisingly, English proficiency level appears to be the prominent predictor. It was found as a predictor of three dependent variables: explicit attitude, INT, and PC of all groups of speakers. This was followed by major, which was also found as a predictor of implicit attitudes of IAT (SA_IN/P), the explicit attitude towards SA instructors, and the INT of IN/P speakers. Lastly, media, Arabic and English, was found to be a predictor of implicit attitudes of IAT (SA_IN/P), and the PC and PFA of EG speakers. Prior EMI research on SA has lacked a focus on students' attitudes towards content EMI instructors, and so there is no baseline against which the findings of this study can be compared. No previous study directly investigated the influence of demographic factors on students' attitudes and perceptions towards EMI instructors; most of the EMI literature has examined the impacts of these factors on the students' perceptions of EMI. Therefore, the comparison would be with these EMI studies as well as studies from speech perception literature. The following discussions will discuss the effects of the demographic variables of English proficiency level, major, media, and academic level on the participants' evaluations of different EMI instructors in terms of implicit/explicit attitudes, and the speech constructs of INT, PC, and PFA.

English proficiency level

English proficiency level was identified as a factor that usually predicted the perceptions of EMI in general (AlZumor, 2019; Curle et al., 2020a; Kamaşak et al., 2021; Rose et al., 2019) and also in the listener's evaluations of speech constructs (Kang et al., 2019; Ludwig & Mora, 2017; Munro et al., 2006). The present findings show that EMI students' levels of English proficiency play a role in the measure of explicit attitude and the speech constructs used in the study. Students with beginner and intermediate levels had significantly more positive attitudes towards EMI EG instructors. The previous research (e.g., Inbar-Lourie & Donitsa-Schmidt, 2020; Karakas, 2017) concluded that subjects with lower levels of English proficiency tended to have a preference towards local instructors, who share L1 with students.

The result of the present study does show that beginner and intermediate participants tended to have a significantly more positive attitude towards EMI instructors, namely EG, who shared with them L1, than advanced participants. One potential reason could be that the EG instructors were switching to Arabic more frequently than SA instructors while teaching content courses; hence, beginner and intermediate students might find them easier to communicate with and comprehend, resulting in their favourable sentiments toward them. This could imply though that more proficient students were more positive towards IN/P instructors.

English proficiency level is also a predictor for the INT of the three speakers, EG, IN/P, and SA speakers. Despite the beginner and intermediate levels' positive attitudes towards EG instructors, they found EG speakers less intelligible than listeners with a more advanced level did. Intermediate students in particular found IN/P and SA speakers less intelligible. On the other hand, similar students (beginner and intermediate) rated EG on the PC scale as easier to understand. It is complex and contradictory, yet a possible explanation could have related to the objective measure of INT, where students need to listen carefully in order to judge speakers' statements as true and false, making them pay more effort in identifying and understanding the speech. Intermediate and beginner students have relatively low levels of English proficiency, and previous research, for example, Kang et al. (2019), found that low proficiency level is associated with reduced INT. They considered English proficiency level as a confounding variable that affects listeners' INT, particularly intermediate and low-level listeners, who show more sensitivity to different accent varieties when compared to advanced level.

However, in the PC constructs where the listeners subjectively evaluated the speakers, other factors might interfere in determining the rating of this construct. For example, students may think of the advantage of EG L1 (Arabic) as a factor to help them understand the EG speakers. Once again, the implications for the EMI context, from the results of the current research, are that students with a lower level of English demonstrate more significant outcomes, meaning that a low level of English is a burden and makes it more difficult for students to understand their NNES EMI

instructors. This means that the efficacy of EMI classes will be lower. However, English proficiency level in the current study relies on self-reporting, and it would be valuable to conduct a further study among the EMI students in SA using more objective measurements of English proficiency to determine the validity of the current findings since this variable is a strong predictor of successful implementation of EMI (see Curle et al., 2020a; Rose et al., 2019; Xie & Curle, 2020).

Major

Previous studies have found that students' attitudes toward EMI are generally impacted by majors; thus, in this research major was measured, and the data here were less encouraging for EMI instructors. Major, particularly applied science, was a significant predictor of the IAT (SA_IN/P) scores when compared with computer science and predicted more positive associations with the SA instructors than IN/P ones. Medical students revealed negative explicit attitudes towards SA instructors when compared with computer science students. Those students also found IN/P speakers more intelligible than other speakers. A possible reason is that medical students are expected to have a good level of English proficiency in order to enrol in medical schools;[16] thus, they may have no trouble understanding the language. They could have viewed instructors who speak solely English as more valuable than Arabic instructors, particularly SA speakers. The majors of students included in the study are all science, and that might explain why this variable is not a significant predictor in comparison to prior research in EMI that analysed a variety of majors from humanities, engineering, and sciences disciplines (e.g., Kamaşak et al., 2021). It

[16]Universities in Saudi Arabia admit students to medical colleges based on their high school GPA and scores on the Scholastic Achievement Admission Test (SAAT) and the General Aptitude Test (GAT). Detailed information regarding the content and structure of both tests can be found on the Saudi National Centre for Assessment in Higher Education website: https://www.etec.gov.sa/en/productsandservices/ Qiyas/Education/Pages/default.aspx.

would be of limited value to include humanities in the Saudi context because they are all using AMI.

Media consumption

Although some might think that the media can provide some insights into the ratings of attitudes and speech constructs, media in my data plays a limited role. Media exposure does not have much influence on students' evaluations of both attitudes and speech constructs. However, it does affect three variables, (a) the implicit attitudes of IAT (SA_IN/P), (b) PC of EG speakers, and (c) PFA of EG speakers. For the implicit attitude of the IAT test of (SA_IN/P), students with high exposure to Arabic media foster more positive attitudes towards SA instructors compared to IN/P instructors. This suggests that Arabic media exposure fosters positive associations with the SA instructors rather than IN/P ones. A possible interpretation is that these students have a very strong Arabic and SA identity, which was reflected in their ratings throughout the entire study. Another explanation could be related to the Arabic media stereotypes of IN/P expatriates, which are negatively depicted, and previous research hypothesised that long exposure to stereotypes can have an impact on implicit attitudes (e.g., Arendt & Northup, 2015; Northup, 2010). It is reasonable to assume that students with high exposure to media may be more likely to absorb media produced stereotypic images. This is in line with studies by Arendt and Northup (2015) who found that individuals with heavy exposure to negative news on African Americans had more negative implicit attitudes towards this social groups. The Saudi participants might have some sort of stored cognition representation of IN/P speakers, similar to what is depicted in media shows (for more about mental representation and exemplar model see Bodenhausen et al., 1995; Mastro & Tukachinsky, 2011; Turner & Turner, 1992). However, it is complicated to come to a conclusion about media since the media stereotypes on minority groups in SA (and in the Gulf in general) are not strongly covered by the literature. Thus, it would be of value, in the future, to conduct studies to investigate the influence of media and broaden the perspectives of its influence on the target group members of minorities in SA.

Students who were highly exposed to English media negatively perceived EG speakers as being incomprehensible (in the ratings of PC) and accented in terms of PFA. Considering the subjective assessment of PC and PFA, attitudes could also have played a role in the PC evaluations. The students' dissatisfaction might reflect a sort of comparison of media English and the English used by EG instructors, which was consistently described as 'bad' and 'Egyptian' English in the interviews and open-ended responses. Students in the current research identified EG English accents in relation to EG Arabic accents because specific EG sounds transferred into their English accent. Although research in Arabic accents, such as Hachimi (2015), (see Chapter Two, Section 2.4) found that EG Arabic dialect stands out as one of the prestigious Arabic varieties. However, the case appears to be different with Saudi listeners. It seems that individuals' perceptions towards EG Arabic variety vary according to listeners' media consumption.

Academic level

In the discussion so far, we have examined factors that predicted students' attitudes and perceptions of their NNES EMI instructors. Findings related to variables that failed to predict students' attitudes and perceptions deserve discussion. It is worth noting that the academic year of the participants had no significant impact on the evaluations given to any of the variables of explicit/implicit attitudes, and speech constructs of INT, PC, and PFA for all the groups of EMI instructors. Although this variable has been found as a significant factor in previous EMI research (e.g., Macaro & Akincioglu, 2018), and in ELT research (e.g., Ling & Braine, 2007), it was not identified as such in this study. It is possible, albeit unlikely, that EMI students do not have any potential differentiating relating to this factor that influences their evaluations (i.e., the attitudes and perceptions of the participants are relatively homogenous). It would be useful, in the future, to conduct similar studies to investigate the influence that other factors, such as gender, age, type of university, level of education (where postgraduate students can be included) may have on Saudi students' attitudes and perceptions toward NNES EMI instructors.

7.6 Chapter summary

The overall aim of the current research study was to explore and understand the implicit and explicit attitudes, the speech perceptions' ratings of EMI instructors, and the factors that impact the undergraduate students towards their NNES EMI instructor, namely SA instructors, EG instructors and IN/P instructors in SA. In this chapter, a discussion of the major findings from the qualitative and quantitative data was presented in the context of the literature framework. The main findings of this research indicate a clear pattern was followed by the Saudi participants and a hierarchy was created among the NNES instructors.

The results show that positive and negative attitudes are present in the SA context among EMI students towards their EMI instructors, especially as far as student participant views are concerned. The positive attitudes are demonstrated clearly by the preference of having classes with local instructors and evaluations of these instructors over other Arab and non-Arab instructors. Furthermore, the data show that locals were considered superior and regarded as the most intelligible, the most comprehensible, and the least accented instructors. The significant results of the influence of the instructor's country of origin on students' evaluations could suggest reasons for the biases and prejudices towards those foreign instructors in terms of explicit/implicit attitude and speech perceptions. This draws attention to other EMI contexts that are comparable to SA contexts (such as the Gulf), where similar problems may be found.

The findings have suggested that, despite having attitudes towards NNES EMI instructors, students' attitudes are influenced by a number of factors, and these attitudes cannot be used to justify the evaluations of the speech constructs. Attitude should not be considered a reliable predictor of students' assessments of levels of INT, PC, and PFA, and EMI Saudi students' evaluations of the speech constructs are very likely a result of other criteria.

The next chapter summarises the content of the thesis and discusses the contributions of this thesis. Further, the chapter discusses the implications of the findings in relation to students, instructors, and universities, presents its limitations, and makes recommendations for future research.

Chapter Eight: Conclusion

This chapter commences by summarising the key findings of the current study. It then discusses the research contribution as well as the implications of the results and how they relate to several areas in the EMI context to improving the quality of educational practice in the Saudi context. Next, it provides a discussion of the research limitations and offers a set of recommendations for future research. The chapter ends with providing a general summary of the thesis.

8.1 Research aims and key findings

The ultimate purpose for carrying out this investigation and examining both attitudes (implicit/explicit) and the speech perceptions of instructors in the Saudi context, was to provide evidence of how students perceived their NNES EMI instructors and to gain an understanding of the factors that contributed to such attitudes. Therefore, this study makes the following contributions:

1) Contribution to EMI: A comparison of NNES from different L1s and perceptions of their speech, which has not previously been investigated in EMI. Moreover, the context of EMI in SA is understudied; there is an obvious absence of SA literature compared to international literature in different contexts.
2) Contribution to language attitudes: Explicit investigation of attitudes to language (interviews plus questionnaire) compared to (non-linguistic) implicit bias test, that is, IATs.
3) Contribution to speech perceptions: Comparisons of the different constructs in a new context; investigating the relationship between attitudes and perceptions.

The present study began with the overall aim of examining the implicit/explicit attitudes towards and speech perceptions of Saudi students towards their NNES EMI instructors, in particular SA, EG, and IN/P instructors. To achieve this, I developed an evidence-based framework that would support learning with NNES EMI instructors and teaching in the EMI context in SA. The research was broken up into five specific questions: (1) to examine the students' implicit and explicit attitudes towards NNES EMI instructors in SA and (2) to understand what drives these attitudes; (3) to investigate how students rate those instructors in terms of the three speech constructs, INT, PC, and PFA; (4) to explore the influence of attitudes on the ratings of these speech constructs; and (5) to identify the demographic factors that influence attitudes on the one hand and speech perceptions on the other (as measured by the three speech constructs). The research design employed an exploratory sequential mixed methods research design through two phases. These were (1) face-to-face interviews with students in the first phase, and (2) an online Qualtrics links for IATs tests measuring implicit attitudes: attitudinal questionnaires which directly asked about students' explicit attitudes towards their EMI instructors and their English; and tests to measure INT, PC, and PFA, all were in the second phase. All participants were from SA studying in a public university and attending courses using EMI.

The findings demonstrated that Saudi participants' implicit attitudes, measured by the IATs, predominantly evaluated local instructors as possessing positive teaching traits when compared to the EG and IN/P instructors. EG instructors were associated with negative teaching traits when the IAT was between (SA_EG). On the other hand, they were associated with positive teaching traits when the IAT was between (EG_IN/P). The non-Arab instructors, that is, IN/P received more discrimination, both in terms of two IATs, with SA and with EG.

The findings of this study showcased those Saudi undergraduate students perceived NNES EMI instructors differently. Saudi students explicitly preferred SA instructors as their favourite instructors and rated them highly on INT, PC, PFA. In the direct attitudinal questionnaires, the Saudi participants predominantly expressed positive

attitudes towards SA instructors in all the questionnaire constructs, that is, accent, teaching quality, shared Arabic, liking, and EMI in developing English. As far as students' perspectives are concerned, it appears as though SA instructors meet respondents' informal and interpersonal demands. Respondents associated local instructors and their accents with comprehensibility and intelligibility, since both students and instructors shared the L1, the accent, and the cultural background. Saudi students also showed a preference for the other Arab instructors, the EG instructors, and ranked them second in the questionnaire constructs. EG instructors were associated with Arab culture but much less so with SA contexts. In both phases, the qualitative and quantitative, and in relation to the EMI context, the students appreciated the EG instructors' knowledge and teaching methods. However, in the more objective measure of intelligibility, EG speakers were found to be less intelligible and were rated as less comprehensible than the IN/P instructors.

While the Arab instructors were shown a favourable attitude, the non-Arab instructors, that is, the IN/P, received negative evaluations from Saudi undergraduate students. Students expressed their dissatisfaction with those instructors for different factors, including accent, teaching quality, and absence of shared L1. Prejudice towards those instructors was revealed implicitly and explicitly. However, the speech construct results deviated from the pattern identified in the implicit and explicit attitude tests as well as the findings from the qualitative phase. Saudi students in more objective measures found IN/P instructors to be more intelligible and perceived them as being more comprehensible than EG instructors; however, they did find them the most accented among the three groups of speakers. This finding was unexpected since the common assumptions is that the speaker who is most difficult to understand is the one is who rated the most accented. Regarding the question of whether attitude has impacted the ratings of the speech constructs, it was not fully supported in this study, and this could be due to the complex nature of attitudes, especially as they relate to speech constructs. It is difficult to determine whether or not attitudes are influencing participants' evaluations. Since attitude is a latent component, it cannot simply be

viewed as the most predominant element influencing participants' assessments of speech constructs.

Detecting the differences in respondents' demographic information, along with the explanations from the interviewees, revealed a range of factors that influence the implicit/explicit attitudes and speech constructs evaluations. These factors differed in their contributions to the discrepancies in students' evaluations. English proficiency level was the most considerable factor, followed by major and media. Interviews also revealed how students qualitatively expressed the factors in preferring local instructors more than EG and IN/P instructors. Shared Arabic, teaching quality, and instructor's knowledge in teaching the content materials were the factors for the students' appreciation of locals and EG instructors. For the same factors, the non-Arab instructors, in this case, IN/P instructors, received unfavourable evaluations in terms of students' attitudes. Investigating the perceptions of students of their instructors is important because students' opinions toward instructors could advise instructors about how to organise and present curriculum materials in the EMI context. Gaining insight into students' attitudes and speech perceptions of EMI instructors could help to provide pedagogical proposals for developing EMI classes in the SA context in order to ensure that EMI classes enable students to thrive in this environment and be prepared for their prospective careers.

8.2 Study contributions

The current research contributes to the fields of the study from which it draws on by utilising its strength to provide a detailed analysis and gain a thorough understanding of the current research.

(a) Methodological contribution

This investigation has furthered research within different disciplines by employing various instruments to explore the current phenomenon. The inclusion of IAT from social psychology, speech construct experiments' instruments, attitudinal

questionnaires, and interviews is believed to have enriched these fields. Researchers from previous studies in the field of EMI tended to employ one or two of these instruments and, in most cases, they used direct methods, such as questionnaires and interviews (see, for example, Inbar-Lourie & Donitsa-Schmidt, 2020; Jensen et al., 2013; Karakas, 2017; Qiu & Fang, 2019), or indirect methods, such as VGT (see Hendriks et al., 2021; Mu, 2020), to collect data. This study is the first that has employed a combination of implicit instruments, explicit instruments (IAT, self-report questionnaire), interviews, and speech constructs' experiments to examine students' attitudes towards and perceptions of NNES EMI instructors in SA higher education. Given the complex nature of students' attitudes, multiple data sets were used, as well as different methods of data collection, which provide additional reliability and validity to the findings. The inclusion of these instruments has provided comprehensive and valid results that would not have been achievable by relying only on one approach. The combination of these approaches allowed the researcher to examine the investigated area from more than one standpoint and gain a better understanding of the attitudinal phenomena from the perspective of the EMI students.

(b) Contextual contribution

Although a growing body of research has documented EMI students' attitudes to better understand how the implementation of EMI impacts upon students' academic outcomes, this type of research is still in its infancy in SA. Therefore, the current study aimed not only to expand the knowledge about EMI research in the SA context but also to better understand the students' attitudes towards and perceptions of EMI instructors, particularly NNES. The findings from the current study help the understanding of students' attitudes. They also identify the factors that impacted students in their understanding of their EMI instructors (from multiple backgrounds). The recommendations have a practical value for students, university administrators, course designers, and lecturing staff: to enhance the quality of teaching and learning in EMI programmes in universities in SA. Even though the study focused on SA, its findings can be extended to other Gulf states as well, since these contexts are similar.

For example, they share a common historical, social, and cultural heritage; they speak Arabic as the official language; they embrace Islam as the official religion; they adopt English as a second language; they rely heavily on an expatriate workforce in both the academic context and the wider society; and they have similar configurations of EMI instructors from those expatriates.

(c) Conceptual contribution

As suggested in the literature review (see Chapter Three, Section 3.4.1), most of the studies in the EMI context have ignored the investigation of NNES and treated them as one group without considering different L1s that could be a substantial variable in revealing attitudes towards instructors. These studies compared attitudes towards NES with attitudes towards NNES/local instructors (see Inbar-Lourie & Donitsa-Schmidt, 2020; Jensen et al., 2013; Karakas, 2017; Qiu & Fang, 2019). However, the current study contributes to the existing literature in extending the conceptual understanding of attitudes (implicit and explicit) towards, and perceptions of, NNES EMI instructors from different L1 backgrounds. The present study has demonstrated that similar to the levels that existed between NES and NNES, students in this study created hierarchy levels within NNES as well. None of the previous studies had targeted the students' implicit and explicit attitudes towards different groups of NNES EMI instructors, nor had they investigated the perceptions held by EMI students of NNES EMI instructors in terms of INT, PC, and PFA, and this research aimed to fill this gap.

8.3 Implications of the study

This section discusses the implications of the results obtained from this study concerning students, instructors, and universities.

(a) Implications for students

Evaluations of expatriates' instructors from Egypt and India/Pakistan are closely linked with stereotyped judgments of the speakers; thus, the study can raise the

students' awareness of varieties of English and speakers. I recommend increasing students' sensitivity and awareness regarding prejudiced attitudes to NNES instructors and their accents within EMI contexts. It was demonstrated by Roessel et al. (2019) that when participants are informed about their prejudices, the tendency to have a more favourable attitude towards accented speakers increased. One strategy to counter students' preconceptions is exposing them to educational resources that demonstrate successful communication amongst a range of NNES with different NNES accents (Formanowicz & Suitner, 2020).

The results suggest that Saudi education has to be more open in order to be better matched with the country's aims for openness and a global outlook (Vision 2030). That is, Saudi students need guidance toward a better understanding and familiarity with Global Englishes. Saudi students' views and attitudes regarding different English speakers need to be changed and that can be attained through preparing them to become more open-minded toward other English speakers. They need also to be aware of the challenges faced by NNES EMI instructors in general in using English as a medium of teaching as well as the challenges faced by non-Arab instructors in particular.

(b) Implications for instructors

Understanding students' attitudes and the reasons behind them can be crucial as it can help to provide valuable recommendations for NNES instructors. For example, since students complained about the accent of instructors, accented instructors can develop better teaching techniques to satisfy students' needs. They can plan their teaching more effectively, increase opportunities for students to ask questions, and utilise a wide range of multimedia resources in their presentations (Airey & Linder, 2006). Indeed, survey data indicate that a successful lecturing technique has a greater influence on students' evaluations than the language used in second language lectures (Jensen et al., 2013).

Moreover, understanding students' attitudes can improve the efficacy of EMI and should be incorporated into an appropriate training programme for EMI instructors (e.g., Frost & Henderson, 2021) with awareness-raising tasks that might tackle these attitudes (Galloway & Rose, 2015), as will be discussed further in the following section (Section (c)). There is a growing interest in training teaching staff to be qualified to engage in teaching EMI (e.g., Martinez & Fernandes, 2020; O'Dowd, 2018). This is more important in the Saudi context since Saudi higher education lacks any EMI-specific training.

(c) Implications for university

In the current study, from the data presented in Chapter Six, Section 6.1.1, 80.9% of students categorised their English competence as being at a low level of English (beginning or intermediate level), which is consistent with earlier Saudi research (see, for example, Alfehaid, 2018; Alhamami & Almelhi, 2021b; AlZumor, 2019; Louber & Troudi, 2019; Shamim et al., 2016). All of these studies showed that Saudi undergraduate students have a relatively low English proficiency level. One potential solution to this situation in Saudi higher education could make EMI programmes optional as is the case in Korea (Kym & Kym, 2014) and in China (Wan & Gao, 2020). In the Saudi context, EMI-based curricula for content topics are mandatory, and no AMI-based curricula are offered. It would be beneficial for students to have the option of choosing the appropriate curriculum based on their needs rather than being forced to learn in English. In this case, students would have equal opportunities, that is, students who wish to learn only in English in EMI programmes would not lose the opportunity to improve their English skills. Students with limited English proficiency level would opt for AMI programmes in which they would not miss the opportunity to acquire the content knowledge because of the barrier of language.

Closely related to the above discussion is how students tacitly and clearly express a significant preference for Arab instructors. The consistent preference for Arab instructors and the use of L1 raises further questions about EMI's purported effectiveness to improve students' proficiency. In the case of the university under

investigation, it appears that the government's goal to improve students' English proficiency through EMI programmes is unlikely be achieved. On the basis of these findings, a new curriculum could be proposed based on the nature of EMI classrooms, namely a bilingual curriculum, suggesting that bilingual practices need to form the basis for EMI research rather than monolingual norms. This recommendation is in line with AlZumor (2019), Belhiah & Elhami (2015) in the Gulf context, and Sahan, (2021a) in the Turkish context. All of these researchers advocate a move towards bilingualism and multilingualism in higher education in their respective studies. This is also consistent with the argument of Samuelson and Freedman (2010), who assert that the use of English only in teaching content courses will have a negative impact on students' participation in the global economy because those students might lack adequate expertise in either their native or the second language.

The current study demonstrates a lack of internationalisation in SA universities. Local Saudi students comprise the majority of students enrolled in public universities in the country. To achieve internationalisation, recruiters and decision makers in SA should consider enrolling international students. Facilitating diversity and multilingualism among students and instructors would help SA students to acquire intercultural communication, awareness, skills, and strategies. This diverse classroom environment would require adaptation to EMI instructors and their English, thus decreasing Saudi students' tendency to prefer only locals or Arab instructors. Stakeholders would have an opportunity to examine prejudices against other nationalities and to counter the implicit and explicit prejudices that are evident in this study with regard to instructors' nationalities.

The implication for recruiters is that they need to be aware of the critical attitudes towards NNES instructors of different nationalities for EMI. There is some evidence that an educational institution's staff may at times be influenced more by socio-psychological factors than by linguistic information when judging a prospective instructor's oral competence (Kang & Rubin, 2009). In the employment context, recruiters need to be aware of the influence of accent on the perception of candidates, and how it can be used to replace more overt forms of discrimination (Kang & Rubin,

2009; Lippi-Green, 2012). It is therefore imperative that more consideration be given to the qualifications and experiences of EMI instructors in the SA context, since students indicated in their comments that instructors' qualifications were crucial for effectively teaching the content of courses. University administrators should pay attention to the importance of hiring well-trained content instructors who can satisfy students' linguistic and content expectations. Stakeholders involved in EMI programmes should be aware of the expectations students have of EMI instructors, regardless of the instructor's nationality. Well-structured professional development programmes should be developed with consideration for the linguistic and cultural backgrounds of instructors, especially those identified in this study, as this configuration of instructors is common in the SA context. Professional development opportunities are rare for EMI instructors in SA. EMI instructors should have opportunities to not only improve their overall English proficiency, but also to acquire the skills required to teach in English.

Given that English proficiency level was found to be a significant predictor of speech constructs' evaluations in the study, there appears to be a need for additional English language support for students enrolled in EMI courses, a suggestion made also by Xie and Curle (2020). Lacking English proficiency level influences students' academic outcomes, and thus collaboration between EAP, ESP, and EMI instructors has been proposed by a number of scholars (e.g., Alhassan et al., 2021; Dearden, 2018; Galloway & Rose, 2021; Galloway & Ruegg, 2020) in order to establish a consistent and focused EMI programme. For example, the curriculum of English courses could be revisited, with more activities related to the content materials in all four skills (i.e., listening, speaking, reading, writing) added to help students improve their English skills. In this case, a more practical orientation can be achieved, avoiding instances when students are applauded for their academic knowledge but lacking adequate English communication skills.

The findings also emphasise how the students rely on their L1 in order to understand the content knowledge. The findings support the need for universities to revise and update their EMI policies in the SA context and close the gap between the policy and

the practice; we find the policy stressed using EMI in the classroom, nonetheless, the practice was the contrary. What is aimed for in EMI is entirely distinct from what is applied in the classroom. Students' preferences for Arab instructors and using Arabic to learn and communicate are clearly an indication that the EMI policy is not being implemented. Rather than leaving the gap unfilled, the policymakers can offer the policy of dualism and officially include Arabic in tandem with English in the classroom.

In light of the attitudes found in this study towards accented English, it may be necessary to introduce a teaching model for universities. In expanding circle countries, students are mainly studying in a monolingual context where NNES instructors are judged based on their ability to speak English that is 'native-like.' When students experience NNES instructors with distinct accents, they tend to develop an unfavourable attitude towards them. Therefore, language centre instructors at universities could support and contribute to a related course in Global Englishes (Galloway & Rose, 2015), offering students an opportunity to develop intercultural awareness. It is not common for Global Englishes pedagogy to be practised in SA, thus the implementation of such a course would give students the chance to increase their awareness of and positive attitudes towards varieties of English used by their NNES EMI instructors, as demonstrated and successfully applied in other contexts, such as Thailand (Boonsuk et al., 2021). Integrating Global English as a course and raising students' awareness of the intelligibility of NNES English varieties would promote tolerance and address the misconception that NNES varieties are communicative barriers.

Global Englishes could be explored in the classroom through listening activities and tasks that expose students to a variety of NNES' accents. In these activities NNES accents are presented as valid forms of the English language instead of 'incorrect' models of standard English (Galloway & Rose, 2015; Rose & Galloway, 2019). This would help students to accept the diversity of English they will experience, either with their instructors inside the class, or outside the class. Then, if they do take EMI classes,

they can benefit from the increased exposure to different English varieties. If students are more aware of the inner, outer, and expanding circle Englishes, EMI programmes in the Saudi context will be pushed towards a more practical approach, consistent with today's worldwide use of English. Saudi Arabia has recently changed its policies to hosting international visitors, and so people should not expect to listen to only one variety of English, especially in universities. The model of global Englishes can foster students' reflections on linguistic diversity, challenge their native speakerism ideology, and encourage them to see NNES EMI instructors as more than someone who speaks with a native or native-like accent (see Galloway, 2013).

Finally, the data analysis showed how students have directed their preferences towards SA instructors implicitly and explicitly. These feelings were partially interpreted to be motivated by prejudice under the guise of discrimination against non-Saudis. Louber (2021) found that while teaching in SA, several instructors (in his study mostly EFL instructors) had faced discrimination in terms of recruiting based on nationality and nativeness. Therefore, in the Saudi context, it is critical to create awareness across the university community, which includes students, instructors, and administrators. In this case, one option would be to inform the education community about discriminatory practices or to invite them to a workshop with the objective of eliminating such discriminatory practices in this context. It would be helpful to conduct additional research to gain a better understanding of how discriminatory acts occur in SA and based on the findings, develop strategies and programmes that are attentive to teaching and learning context. The current study has only scratched the surface of this notion; however, it is hoped that this research raises awareness and sheds light on this under-researched area in the Saudi context, paving the way for future research to take action from here forward.

8.4 Limitations of the study and recommendations for future research

Although the main research findings have provided significant insights into the attitudes of Saudi respondents toward NNE EMI instructors, this study is not without certain limitations.

First, there is a lack of research focusing on EMI instructors in SA; therefore, I started by conducting a qualitative approach through interviewing students and gaining an understanding of their attitudes towards the actual NNES instructors who are currently teaching them content courses in EMI setting. The sample in the qualitative phase was relatively small (four interviews) and (two focus groups), but it provided valuable insights and highlighted certain issues which required further exploration through questionnaires (second phase). Future research would benefit from a large number of interviews and FGs, as well as employing more qualitative instruments, such as observation, which would all help to validate the current findings and add more valuable understanding to the actual practice of EMI inside the classrooms.

Second, in the quantitative stage (the second phase of the study), IAT tests, attitudinal questionnaires, and speech construct experiments were employed to obtain more information about the Saudi participants. This study focused on a single public institution, and future research could broaden the scope of this research by examining more universities in different cities in the SA context, as well as exploring private universities. This would help in making comparisons and drawing more nuanced conclusions, as suggested by Macaro in his conversation with Sahan (2021b).

Third, this research has yielded new results concerning three groups of instructors from EG, SA, and IN/P, and approached the problem from a different perspective. To minimise the potential effects of participants' fatigue, three groups of instructors (and speakers) were included in the attitudinal questionnaires and speech construct experiments. The latter used recordings of the three groups of instructors with only two speakers per group presented for evaluation. However, further research in SA

could endeavour to expand upon this study and verify its findings by including more groups of instructors from other nations that are widely available in the context, such as Sudanese and Filipinos.

Fourth, the stimulus materials used for testing speech constructs in this study consisted of relatively short audio fragments of sentences, which were adapted from Munro and Derwing (1995b). Considering that actual lectures are longer, the negative effects of NNES accents may be even more pronounced. Prior research with objective measures of intelligibility has demonstrated that NNES who were deemed to be as comprehensible as NES in short phrases were more difficult to comprehend in longer lecture speech (Jensen & Thøgersen, 2017). Therefore, future research could include fragments from an actual lecture with those instructors to gain a better understanding of students' perceptions in terms of the three speech constructs.

Fifth, given the fact that males and females are separated in the Saudi education system, the results were obtained solely from female students, and no representative samples were collected from male students. Therefore, future research can include broader representation and yield results that can be generalised to the overall population of female and male students in SA. Furthermore, since this research has focused on students, little is known about instructors' or recruiters' attitudes. Future research could obtain a more complete picture with perspectives from different viewpoints.

Sixth, research within social psychology has long investigated socially sensitive topics using IAT, and it has been considered of great value in revealing students' implicit attitudes. In these studies, the researchers employed a variety of stimuli, including pictures, words, and recently by sociolinguists, auditory samples. the current study made use of labelling words (typical names), which are the norm in the IAT research more broadly; nevertheless, it remains unclear whether the inclusion of audio recordings of those instructors, as opposed to labels, would have yielded equivalent results (see Chapter Three). Future research could verify the current results by using auditory samples of intended instructors (see Rosseel et al., 2018), for

example, or also pictures, to provide further insights into how students' reaction times would be towards those instructors.

Seventh, this research verified that the Saudi students' explicit and implicit attitudes did not directly influence the way they judged the speech constructs of INT, PC, PFA; the interplay between attitudes and speaker evaluations is a complex issue. Future studies, particularly in the SA context, can explore the relationship of INT, PC, and PFA to speech production, which is currently lacking. Further investigation may be useful in locating the source of issues in speech production of the instructors that have the potential to impair intelligibility and/or affect perceived comprehensibility. They might also draw attention to particular phonological features of those instructors in order to pinpoint the cause of the problem.

8.5 Chapter and thesis summary

This chapter has summarised the results of the study from a macro-level perspective. In addition, it has discussed the implications for different stakeholders as well as the study's various contributions. The chapter concluded by highlighting the limitations of the study, along with recommendations for the direction of future research.

This thesis has offered an analysis of students' attitudes towards NNES EMI instructors in a SA context from a fresh perspective. It has looked at their implicit and explicit attitudes towards groups of instructors, their evaluations of the speech constructs, what factors influence these attitudes, and how attitudes impact the perception of INT, PC, and PFA. It employed mixed methods utilising both qualitative and quantitative measures to obtain rich data. The findings suggested that, despite having a diversity of attitudes towards NNES, students' attitudes and perceptions are influenced by a number of factors, which were disclosed by students in the qualitative phase, and demographic factors, which were inferred statistically in the quantitative phase. The results emphasised that students greatly appreciated instructors sharing a similar L1 with them because this allowed them to feel more able to understand the content materials. They also negatively and systematically evaluated the non-Arab

instructors in this study. The results supported the need for revising the EMI policy in Saudi universities and considering the options of using Arabic besides English in teaching content materials. The findings also demonstrated the need for teaching Saudi students to be open-minded toward a variety of English speakers by taking into account locals and expatriate instructors equally. This thesis sought to corroborate and extend previous findings regarding NNES instructors across different disciplines, as well as to present a more complete picture of students' attitudes within a novel context. This study provided practical insights for all those engaged in English medium instruction.

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Appendices

Appendices A: Methodologies

A1. Participants consent forms for qualitative research (English and Arabic)

THE UNIVERSITY *of* EDINBURGH
School of Philosophy, Psychology and Language Sciences

Information sheet for participants

Study title:	Impact of students' attitudes on intelligibility, comprehensibility and perceived accentedness of non-native English instructors in Saudi Arabia.
Principal Investigator:	Dr. Claire Cowie [claire.cowie@ed.ac.uk]
Researcher collecting data:	Abeer Alshehri [s1794747@ed.ac.uk]

What is this document? This document explains what kind of study we're doing, what your rights are, and what will be done with your data. You should keep this page for your records. After you read this, continue to the next page.

Nature of the study. You are about to participate in a study which involves interviews and focus groups where you will be asked questions and discussed your experiences and feelings about different non-native instructors who teach you English and content subjects. The session will be audio-recorded, and it will take place here in the Saudi university. Your session should last for up to 30-40 minutes. You will be given full instructions shortly and will be able to ask any questions you may have.

Risks and benefits. There are no known risks to participation in this study. There are no tangible benefits to you, however you will be contributing to our knowledge about language.

Confidentiality and use of data. All the information we collect during the course of the research will be processed in accordance with Data Protection Law. In order to safeguard your privacy, we will never share personal information (like names) with anyone outside the research team. Your data will be referred to by a unique participant number rather than by name. We will store any personal data (e.g., audio recordings, signed forms) using the University of Edinburgh's secure encrypted storage service or in a locked filing cabinet at the University of Edinburgh. The anonymised data collected during this study will be used for research purposes. With your permission, identifiable data such as recordings may also be used for research or teaching purposes and may be shared with other researchers or with the general public (e.g., we may make it available through the world wide web, or use it in TV or radio broadcasts).

What are my data protection rights? The University of Edinburgh is a Data Controller for the information you provide. You have the right to access information held about you. Your right of access can be exercised in accordance Data Protection Law. You also have other rights including rights of correction, erasure and objection. For more details, including the right to lodge a complaint with the Information Commissioner's Office, please visit www.ico.org.uk. Questions, comments and requests about your personal data can also be sent to the University Data Protection Officer at dpo@ed.ac.uk.

Voluntary participation and right to withdraw. Your participation is voluntary, and you may stop at any time and for any reason. If you wish to withdraw from the study during or after data gathering, we will delete your data and there is no penalty or loss of benefits to which you are otherwise entitled.
If you have any questions about what you've just read, please feel free to ask, or contact us later. You can contact us by email at [s1794747@ed.ac.uk]. This project has been approved by PPLS Ethics committee. If you have questions or comments regarding your rights as a participant, they can be contacted at 0131 650 4020 or ppls.ethics@ed.ac.uk.
If you have any questions about what you've just read, please feel free to ask them now.
Thank you for your help! **Now please complete the consent form on the next page.**

THE UNIVERSITY of EDINBURGH
School of Philosophy, Psychology and Language Sciences

Participant consent and agreement to data usage

Study title:	Impact of students' attitudes on intelligibility, comprehensibility and perceived accentedness of non-native English instructors in Saudi Arabia.
Principal Investigator:	Dr. Claire Cowie [claire.cowie@ed.ac.uk]
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PLEASE MARK EITHER 'YES' OR 'NO' FOR STATEMENT BELOW:

Consent for participation:	**Yes**	**No**
I consent to take part in the above study, including audio recording.		
Agreement to identifiable data usage requests:	**Yes**	**No**
I agree that recordings of my voice can be **shared with other researchers** and used for research purposes (e.g., presentations and publications).		
I agree that recordings of my voice can be **ma be made publicity available for general use** (e.g. used in radio or television broadcast, or put on the world-wide web)		

Participant name _____ Participant signature _____ Today's date _____

Unique participant code (researcher will complete) _____

THE UNIVERSITY of EDINBURGH
School of Philosophy, Psychology and Language Sciences

مستند معلومات للمشاركين

عنوان الدراسة :	تأثير اتجاهات الطلاب على وضوح وشمولية واللكنة المتصورة للأساتذة غير الأصليين (العرب وغير العرب) في المملكة العربية السعودية.
الباحث الرئيسي:	د. كليركيوي [claire.cowie@ed.ac.uk]
الباحث جمع البيانات:	عبير الشهري [s1794747@ed.ac.uk].

ما هو هذا المستند؟
يشرح هذا المستند نوع الدراسة التي نقوم بها وما هي حقوقك وما الذي سيتم القيام به مع بياناتك. يجب عليك الاحتفاظ بهذه الصفحة لسجلاتك. بعد قراءة المستند ، ارجو الانتقال إلى الصفحة التي تليها.

طبيعة الدراسة: أنت على وشك المشاركة في دراسة تتضمن مقابلات ومجموعات نقاش مركزة تتضمن عدة أسئلة حول تجاربك وشعورك تجاه الأستاذات غير الأصليين (العرب وغير العرب) الذين يقومون بتدريسك اللغة الإنجليزية وكذلك بقية مواد التخصص. سوف يتم تسجيل الجلسة صوتيا و ستعقد الدراسة هنا في الجامعة السعودية. سوف تستمر الدراسة لمدة تصل إلى 30-40 دقيقة. يمكنك طرح أي أسئلة لديك في أي وقت من الدراسة.

المخاطر والفوائد: لا توجد مخاطر معروفة على المشاركة في هذه الدراسة. لا توجد فوائد ملموسة لك ، ولكنك ستساهم في معرفتنا باللغة.

سرية واستخدام البيانات: ستتم معالجة جميع المعلومات التي نجمعها أثناء البحث وفقًا لقانون حماية البيانات. لحماية خصوصيتك ، لن نشارك المعلومات الشخصية (مثل الأسماء أو تواريخ الميلاد أو عناوين البريد الإلكتروني) مع أي شخص خارج فريق البحث. ستتم الإشارة إلى بياناتك برقم مشارك فريد بدلاً من الاسم. سنقوم بتخزين أي بيانات شخصية (مثل التسجيلات الصوتية والنماذج الموقعة) باستخدام خدمة التخزين المشفرة الآمنة بجامعة إدنبره أو في خزانة ملفات مغلقة في جامعة إدنبرة. سوف يتم استخدام البيانات الغير معرّفة التي تم جمعها خلال هذه الدراسة لأغراض البحث وقد يتم مشاركتها مع باحثين آخرين. بعد أخذ الموافقة، قد تستخدم البيانات المعرّفة مثل (التسجيلات الصوتية) لأغراض البحث أو التدريس أو قد يتم مشاركتها مع باحثين آخرين أو للاستخدام العام (على سبيل المثال، قد تكون متاحة عبر شبكة الويب العالمية أو استخدامها في البث التلفزيوني أوالإذاعي).

ما هي حقوق حماية البيانات الخاصة بي؟ جامعة إدنبره لديها وحدة تحكم البيانات للحصول على المعلومات التي تقدمها. لديك الحق في الوصول إلى المعلومات الخاصة بك. ويمكنك ممارسة حقك في الوصول وفقًا لقانون حماية البيانات. لديك أيضًا حقوق أخرى بما في ذلك حقوق التصحيح والمحو والاعتراض. لمزيد من التفاصيل يرجى زيارة [www.ico.org.uk].
يمكن أيضًا إرسال الأسئلة والتعليقات والطلبات المتعلقة ببياناتك الشخصية إلى مسؤول حماية البيانات بالجامعة على العنوان [dpo@ed.ac.uk].

المشاركة الطوعية والحق في الانسحاب: مشاركتك طوعية ، ويمكنك التوقف في أي وقت ولأي سبب. إذا كنت ترغب في الانسحاب من الدراسة أثناء أو بعد جمع البيانات ، فسنحذف بياناتك ولا توجد عقوبة أو خسارة في المزايا التي يحق لك الحصول عليها.

إذا كانت لديك أي أسئلة حول ما قرأته للتو ، فلا تتردد في طرحه ، أو الاتصال بنا لاحقًا. يمكنك الاتصال بنا عبر البريد الإلكتروني [s1794747@ed.ac.uk].
تمت الموافقة على هذا المشروع من قبل لجنة الأخلاقيات في PPLS.
إذا كانت لديك أسئلة أو تعليقات بشأن حقوقك كمشارك ، فيُمكن الاتصال بها على 0131 650 4020 أو [ppls.ethics@ed.ac.uk].

إذا كانت لديك أي أسئلة حول ما قرأته للتو ، فلا تتردد في طرح الأسئلة الآن.
شكرا لك على مساعدتك! الآن يرجى ملء نموذج الموافقة على الصفحة التالية.

THE UNIVERSITY of EDINBURGH
School of Philosophy, Psychology and Language Sciences

نموذج موافقة المشارك والاتفاق على استخدام البيانات

عنوان الدراسة :	تأثير اتجاهات الطلاب على وضوح وشمولية واللكنة المتصورة لأساتذة اللغة الإنجليزية غير الأصليين (العرب وغير العرب) في المملكة العربية السعودية.
الباحث الرئيسي:	د. كليركيوي [claire.cowie@ed.ac.uk]
الباحث جمع البيانات:	عبير الشهري [s1794747@ed.ac.uk].

يرجى وضع علامة على "نعم" أو "لا" على العبارة أدناه:

الموافقة على المشاركة:	**نعم**	**لا**
أوافق على المشاركة في الدراسة أعلاه ، بما في ذلك التسجيل الصوتي.		
الموافقة على استخدام البيانات المعرّفة:	**نعم**	**لا**
أوافق على أنه يمكن مشاركة التسجيلات الصوتية مع باحثين آخرين واستخدامها لأغراض البحث (مثل العروض التقديمية والمنشورات).		
أوافق على أنه يمكن مشاركة التسجيلات الصوتية للاستخدام العام (على سبيل المثال، في البث الإذاعي أو التلفزيوني، أو وضعها على شبكة الويب العالمية)		

تاريخ اليوم _____ توقيع المشارك _____ اسم المشارك _____

(خاص الباحث) رمز المشارك الخاص _____

A2: The semi-structured interviews and Focus groups

Interview and Focus groups Guidelines

Introduction:

'Hello, I would like to express my gratitude for your participation. I am very interested in your perspectives and experiences with your NNES instructors. I would like to hear about your attitudes, and your viewpoints are valuable to me, so please feel free to speak openly and honestly. There are no right or wrong answers, and I will not share your responses to anybody, even your instructors.

Interviews and Focus groups questions

Open questions

- What is your major?

- What is your experience with learning English?

- How many subjects have you had with NNES instructors?

Questions addressing the attitudes and experience with instructors

- Can you tell me about your feeling the first time you started the semester and found that the course will be taught by NNES instructors? For example, Indian, Pakistani, Egyptian, Saudi instructors?

- What kinds of problem did you encounter with your instructors? instructors from other nationalities in different content subjects?

- Are you willing to accommodate yourself to understand NNES instructors if you have a problem understanding them? and why?

- If you have to choose your content instructor which one is your first choice and why? And who will come then in order?

- Can you recall some personal experiences about your content instructor at the university? Whether Arab or non-Arab, Saudi or non-Saudi?

- Well, if you have given the decision to recruit content instructors whose nationalities are you going to choose?why?

- Ok if you found yourself have to study with NNES instructor, an instructor from a nationality that, for example, you do not like for a particular reason, is it possible that you behave in a way to show your complaint?

Questions addressing English accent

- How many English accents do you know?

- How do you evaluate your English accent? And other accent e.g., Egyptian, Sudanese, Indian, Saudi accents?

- Do you like to hear the accents of the Egyptian, Indian and Saudi instructors? order them, please.

- What do you think of the native accents e.g., American and British accents? Why?

- Do you consider the accent as a hindrance to your understanding of a particular instructor?

Closing questions

- Please provide as many adjectives as possible when describing the following speakers, The adjectives that you would use when describing (speakers with different accents and different L1 backgrounds such as Indian, Egyptian, Saudi, Sudanese, Pakistani).

- Please provide as many descriptions as possible of your feelings towards each speaker of those varieties.

- Please count positive and negative elements of studying with: -Indian instructor, Egyptian, Saudi instructors.

Further Discussion:

- Do you have any further thoughts about the interview? Or are there any more things you would like to say before we end the interview?

A3: Participants consent forms for quantitative research (Arabic and English)

THE UNIVERSITY of EDINBURGH
School of Philosophy, Psychology and Language Sciences

مستند معلومات للمشاركين

عنوان الدراسة:	اتجاهات الطلاب نحو الأساتذة غير الأصليين الذين يستخدمون الإنجليزية كلغة تواصل وتأثيره على الوضوح والفهم واللكنة المتصورة للأساتذة في المملكة العربية السعودية
الباحث الرئيسي:	د. كليركيوي [claire.cowie@ed.ac.uk]
الباحث جمع البيانات:	عبير الشهري [s1794747@ed.ac.uk].

ما هو هذا المستند؟
يشرح هذا المستند نوع الدراسة التي نقوم بها وما هي حقوقك وما الذي سيتم القيام به مع بياناتك. بعد قراءة المستند، في حال الرغبة في المواصلة في عمل الدراسة اضغطي على كلمة موافق وبعدها سوف تستأنفين الدراسة.

طبيعة الدراسة: أنت على وشك المشاركة في دراسة عن تجربتك ومواقفك تجاه الأستاذات غير الأصليين (الذين يتحدثون اللغة الإنجليزية كلغة ثانية كالأستاذة السعودية، المصرية، الهندية/ الباكستانية) والذين يقومون بتدريسك مواد التخصص باستخدام اللغة الإنجليزية كوسيلة للتعليم في التعليم العالي في المملكة العربية السعودية. تتضمن الدراسة تجربة تصنيفية تحتاج منك تركيز وسرعة قدر الإمكان، التجربة الثانية هي تجربة إدراك حيث تستمعين إلى مقاطع صوتية ومن ثم تجيبين على أسئلة سوف تكون مكتوبة أمامك، تليها استبيان تقرير ذاتي عن الأستاذات، وفي الأخير استبيان معلومات ديموغرافية ذاتية عنك. سوف تستمر الدراسة لمدة تصل إلى ٣٠-٤٥ دقيقة.

المخاطر والفوائد: لا توجد مخاطر معروفة على المشاركة في هذه الدراسة، ولكنك ستساهم في معرفتنا باللغة وكذلك الحصول على قسيمة لمشروب مجانا من كوفي شوب.

سرية واستخدام البيانات: ستتم معالجة جميع المعلومات التي نجمعها أثناء البحث وفقًا لقانون حماية البيانات. لحماية خصوصيتك، لن نشارك المعلومات الشخصية (مثل الأسماء) مع أي شخص خارج فريق البحث. ستتم الإشارة إلى بياناتك برقم مشارك فريد بدلاً من الاسم. سنقوم بتخزين أي بيانات شخصية (مثل التسجيلات الصوتية والنماذج الموقعة) باستخدام خدمة التخزين المشفرة الآمنة بجامعة إدنبره أو في خزانة ملفات مغلقة في جامعة إدنبرة. سوف يتم استخدام البيانات الغير معرّفة التي تم جمعها خلال هذه الدراسة لأغراض البحث وقد يتم مشاركتها مع باحثين آخرين. بعد أخذ الموافقة، قد تستخدم البيانات المعرّفة مثل (التسجيلات الصوتية) لأغراض البحث أو التدريس أو قد يتم مشاركتها مع باحثين آخرين أو للاستخدام العام (على سبيل المثال، قد تكون متاحة عبر شبكة الويب العالمية أو استخدامها في البث التلفزيوني والإذاعي).

ما هي حقوق حماية البيانات الخاصة بي؟ جامعة إدنبره لديها وحدة تحكم البيانات للحصول على المعلومات التي تقدمها. لديك الحق في الوصول إلى المعلومات الخاصة بك. ويمكنك ممارسة حقك في الوصول وفقًا لقانون حماية البيانات. لديك أيضًا حقوق أخرى بما في ذلك حقوق التصحيح والمحو والاعتراض. لمزيد من التفاصيل يرجى زيارة [www.ico.org.uk].
يمكن أيضًا إرسال الأسئلة والتعليقات والطلبات المتعلقة ببياناتك الشخصية إلى مسؤول حماية البيانات بالجامعة على العنوان [dpo@ed.ac.uk].

المشاركة الطوعية والحق في الانسحاب: مشاركتك طوعية، ويمكنك التوقف في أي وقت ولأي سبب. إذا كنت ترغب في الانسحاب من الدراسة أثناء أو بعد جمع البيانات، فسنحذف بياناتك ولا توجد عقوبة أو خسارة في المزايا التي يحق لك الحصول عليها.

إذا كانت لديك أي أسئلة حول ما قرأته للتو، فلا تتردد في طرحه، أو الاتصال بنا لاحقًا. يمكنك الاتصال بنا عبر البريد الإلكتروني [s1794747@ed.ac.uk]
تمت الموافقة على هذا المشروع من قبل لجنة الأخلاقيات في PPLS
إذا كانت لديك أسئلة أو تعليقات بشأن حقوقك كمشارك، فيُمكن الاتصال بها على 0131 650 4020 أو [ppls.ethics@ed.ac.uk].
إذا كانت لديك أي أسئلة حول ما قرأته للتو، فلا تتردد في طرح الأسئلة
شكرا لك على مساعدتك! الآن في حال الرغبة في المواصلة في عمل الدراسة اضغطي على كلمة موافق وبعدها سوف تستأنفين الدراسة.

THE UNIVERSITY of EDINBURGH
School of Philosophy, Psychology and Language Sciences

نموذج موافقة المشارك والاتفاق على استخدام البيانات

عنوان الدراسة:	تأثير اتجاهات الطلاب على وضوح وشمولية واللكنة المتصورة لأساتذة اللغة الإنجليزية غير الأصليين (العرب وغير العرب) في المملكة العربية السعودية.
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يرجى وضع علامة على "نعم" أو "لا" على العبارة أدناه:

الموافقة على المشاركة:	**نعم**	**لا**
أوافق على المشاركة في الدراسة أعلاه، بما في ذلك التسجيل الصوتي.		
الموافقة على استخدام البيانات المعرّفة:	**نعم**	**لا**
أوافق على أنه يمكن مشاركة التسجيلات الصوتية مع باحثين آخرين واستخدامها لأغراض البحث (مثل العروض التقديمية والمنشورات).		
أوافق على أنه يمكن مشاركة التسجيلات الصوتية للاستخدام العام (على سبيل المثال، في البث الإذاعي أو التلفزيوني، أو وضعها على شبكة الويب العالمية)		

تاريخ اليوم _____ توقيع المشارك _____ اسم المشارك _____

(خاص الباحث) رمز المشارك الخاص _____

THE UNIVERSITY of EDINBURGH
School of Philosophy, Psychology and Language Sciences

Information sheet for participants

Study title:	Student's attitude towards non-native EMI instructors and its impact on comprehensibility and perceived accentedness of those instructors in Saudi Arabia higher education.
Principal Investigator:	Dr. Claire Cowie [claire.cowie@ed.ac.uk]
Researcher collecting data:	Abeer Alshehri [s1794747@ed.ac.uk]

What is this document? This document explains what kind of study we're doing, what your rights are, and what will be done with your data. You should keep this page for your records. After you read this, continue to the next page.

Nature of the study. You are about to participate in a study about your experiences and feelings about different non-native English instructors who teach you content subjects by using English as a medium of instruction in higher education in Saudi Arabia. The study involves three categorisation experiments, a perception experiment where you listen to stimuli and then answer questions, followed by self-report questionnaire and ends with demographic information questions. The study will last from 35-45 minutes.

Risks and benefits. There are no known risks to participation in this study. You will be contributing to our knowledge about language and will be rewarded with a voucher of free drink in a coffee shop for your participation.

Confidentiality and use of data. All the information we collect during the course of the research will be processed in accordance with Data Protection Law. In order to safeguard your privacy, we will never share personal information (like names) with anyone outside the research team. Your data will be referred to by a unique participant number rather than by name. We will store any personal data (e.g., audio recordings, signed forms) using the University of Edinburgh's secure encrypted storage service or in a locked filing cabinet at the University of Edinburgh. The anonymised data collected during this study will be used for research purposes. With your permission, identifiable data such as recordings may also be used for research or teaching purposes and may be shared with other researchers or with the general public (e.g., we may make it available through the world wide web or use it in TV or radio broadcasts).

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Participant consent and agreement to data usage

Study title:	Impact of students' attitudes on intelligibility, comprehensibility and perceived accentedness of non-native English instructors in Saudi Arabia.
Principal Investigator:	Dr. Claire Cowie [claire.cowie@ed.ac.uk]
Researcher collecting data:	Abeer Alshehri. [s1794747@ed.ac.uk]

PLEASE MARK EITHER 'YES' OR 'NO' FOR STATEMENT BELOW:

Consent for participation:	**Yes**	**No**
I consent to take part in the above study, including audio recording.		
Agreement to identifiable data usage requests:	**Yes**	**No**
I agree that recordings of my voice can be **shared with other researchers** and used for research purposes (e.g., presentations and publications).		
I agree that recordings of my voice can be **may be made publicity available for general use** (e.g. used in radio or television broadcast, or put on the world-wide web)		

Participant name _____ Participant signature _____ Today's date _____

Unique participant code (researcher will complete) _____

A4: participant's information sheet presented to participants prior to start conducting the study (Arabic and English).

THE UNIVERSITY of EDINBURGH
School of Philosophy, Psychology and Language Sciences

عزيزتي المشاركة

أولاً شكرا لك على مبادرتك ومشاركتك معي في البحث. الدراسة التالية هي عبارة عن تجربتك ومشاعرك تجاه الأستاذات غير الأصليين وهم)الذين يتحدثون اللغة الإنجليزية كلغة ثانية كالأستاذة السعودية، المصرية، الهندية/ الباكستانية(و باستخدام اللغة الإنجليزية سواء كنتي في أي من هذي التخصصات)الطب، الصيدلة، يقومون بتدريسك مواد التخصص التمريض، العلوم الطبية، الحاسب الآلي. أنت على وشك البدء في إجراء التجارب عن طريق فتح الروابط التالية:

الروابط الثلاثة الأولى هي عبارة عن تجربة تحتاج منك التركيز والسرعة قدر المستطاع وستستمر كل تجربة (أي كل رابط) من ٥-٨ دقائق.

الرابط الأخير هو تجربة تنطوي على الاستماع الى محفزات صوتية و من ثم الحكم بالصحة والخطأ للجمل المسموعة، يتبعها استبيان التقرير الذاتي عن الأستاذات، وفي الأخير استبيان لمعلومات ديموغرافية. سوف يستمر هذا الرابط من ٣٥-٤٠ دقيقة.

افتحي هذه الروابط، اتبعي الإرشادات وعند الإنتهاء من كل واحد، افتح الرابط الاخر.

1. IAT SA vs EG

https://edinburgh.eu.qualtrics.com/jfe/form/SV_1MvInTmwqkz7vTL

2. IAT EG vs IN

https://edinburgh.eu.qualtrics.com/jfe/form/SV_eOJzZNgLJA5Oz9X

3. IAT SA vs IN

https://edinburgh.eu.qualtrics.com/jfe/form/SV_2cpY9NvqPLGB7mJ

4. Demo-CA

https://edinburgh.eu.qualtrics.com/jfe/form/SV_884QmOfnqybyH3L

شكرا لك على المشاركة وسعيدة جدا بأنك كنتي جزء من بحثي.

ا. عبير الشهري

THE UNIVERSITY of EDINBURGH
School of Philosophy, Psychology and Language Sciences

Dear participant,

First, thank you for your initiative and participation in my research. The following study is your experience and feelings towards your instructors who speak English as a second language such as Saudi, Egyptian, Indian/Pakistani instructors and teach you content subjects whether you are in any of these disciplines (medicine, pharmacology, nursing, medical sciences, computer) and using English a medium of instructions.

You are about to start conducting the experiments by opening the following links. The first three links are experiments that need you to be as fast and focused as possible. Each experiment (i.e., each link) will last for only 5-8 minutes.

The last link is an experiment involving three sections a) listening to three groups of speakers and then judging the produced speech samples, b) a self-report questionnaire about the instructors, and c) demographic information. This links will last for 35-40 minutes.

Open these links, you will find more instructions on each section, follow the instructions and when you are done with each link, open the other link.

1. IAT SA vs EG

https://edinburgh.eu.qualtrics.com/jfe/form/SV_1MvInTmwqkz7vTL

2. IAT EG vs IN

https://edinburgh.eu.qualtrics.com/jfe/form/SV_eOJzZNgLJA5Oz9X

3. IAT SA vs IN

https://edinburgh.eu.qualtrics.com/jfe/form/SV_2cpY9NvqPLGB7mJ

4. Demo-CA

https://edinburgh.eu.qualtrics.com/jfe/form/SV_884QmOfnqybyH3L

Thank you for participating, and I am glad that you were part of my research.

Abeer Alshehri

A5: implicit test (IAT instructions) as appeared to participants in the main study (in Arabic).

أنتي على وشك البدء في الاختبار والمطلوب منك هو عمل الآتي:

١. التأكد بأن لوحة المفاتيح تكون على اللغة الإنجليزية

٢. ضعي اصبع من يدك اليمني و اصبع من يدك اليسرى على مفتاحي الكتابه (E,I)

٣. سوف يظهر امامك في اعلى يمين ويسار الشاشة مجموعة كلمات من القائمة (أ)، وفي منتصف الشاشة ستظهر لك كلمة من القائمة (ب) كما هو موضح في الجدول التالي

القائمة (ب)	القائمة (أ)
شيرين، صفيناز،، بسنت،آية، شريهان	أستاذة مصرية
راجيف، هارشيتا، مهراجا، باريزاد، آرشيا	أستاذة هندية/باكستانية
لهجة جيدة، نطق واضح، مرنة في التعامل ، مفهومة، متعاونة	إيجابية
لهجة سيئة، نطق غير واضح، غير مرنة في التعامل ، غير مفهومة، غير متعاونة	سلبية

٤. اذا كانت الكلمة في منتصف الشاشه تنتمي الى المجموعه الموجودة في الجهة اليمنى اضغطي ع الحرف (I)

٥. واذا كانت الكلمه في منتصف الشاشة تنتمي الى المجموعة الموجودة في الجهة اليسرى اضغطي على الحرف (E)

٦. أثناء الضغط يفضل السرعة قدر الإمكان مع مراعاة الدقة وعدم تكرار الخطأ

٧. عندما يكون اختيارك خاطئ، سوف يظهر لك بالإنجليزي إشارة إكس بالأحمر، صححي اختيارك بالضغط على المفتاح الآخر

٨. قد تستغرق التجربة من ٥-٨ دقائق. عندما تكونين مستعدة، إضغطي على مفتاح (المسافة) للبدء في الاختبار.

وللمعلومية ستظهر لك رسالة أخرى بعد هذي الصفحة بنفس هذي المعلومات ولكن باللغة الإنجليزية، كل ماعليك عمله هو الضغط على مفتاح (المسافة) كم تم ذكره سابقا للبدء في الاختبار.

A5.1 IAT instruction as appeared to participants in the main study (translated in English).

You are about to start the test and you are required to do the following:

1- Make sure the keyboard is in English
2- place your left and right index finger on the A and I key.
3- At the top corners of the screen, words (targets) appear from category label (A), and in the middle of the screen words (stimuli) appear from label (B) as shown in the following table.

A **Category labels (targets)**	**B** **Stimuli**
EG Instructor	Shereen, Bassent, Ayah, Sherehan, Safinaz
IN/P Instructor	Maharaja, Barizad, Harshita, Rajeev, Arshia
positive	good accent, clear pronunciation, flexible, understandable, supportive
Negative	Bad accent, not clear pronunciation, not flexible, not understandable, not supportive

4- When the word in the middle of the screen belongs to the group on the right press the I key
5- When the word in the middle of the screen belongs to the group on the left press the E key.
6- If you make an error a red X will appear. Correct errors by hitting the other key.
7- please try to go as fast as you can while making a few errors as possible. when you are ready, please press the space bar to begin.
8- The experiment may take 5-8 minutes and when you are ready press the (Space) bar to start the test. For your information another message will appear after this with the same instructions but in English, all you have to do is also press the (Space) bar as mentioned earlier to start the test.

A6: Attitudinal questionnaire

A6.1 The final revised version of the questionnaire

Questionnaire's Constructs and statements	**The source of the statement**
Construct 1: *Teaching quality* **Statements:** **1.** (Nationality) instructors' subject knowledge is excellent. **2.** (Nationality) instructors can clearly communicate the content of the lecture.	(Hendriks et al., 2018)
Construct 2: *Accent* **Statements:** **1.** I understand (nationality) instructors' pronunciations so easily. **2**. I understand what (nationality) instructors are saying without a problem	(Moussu, 2006)
Construct 3: *liking:* **Statements:** **1.** I will be happy to have (nationality) instructors. **2.** I would enjoy taking another class with the (nationality) Instructors.	(Moussu, 2006) and (developed from the interviews)
Construct 4: *Nativeness* **Statements:** **1.** Native English speakers (e.g., American, and British) make the best instructors to teach content subjects. **2.** I can learn content subjects just as well from (nationality) instructors as from Native English instructors. **3.** I prefer Native English speakers (e.g., American, and British) to teach me content subjects instead of (nationality) instructors.	(Moussu, 2006; Ling & Braine, 2007)
Construct 5: *EMI:* **Statements:** **1.** (Nationality) instructors' English helps me to improve my oral English. **2.** (Nationality) instructors' English helps me to improve my academic English.	(Qiu & Fang, 2019)
Construct 6: *Arabic* **Statement:** **1.** I like (nationality) because they do (not) speak Arabic in the class.	Developed from interviews

1. What are three words that you think probably best describe (nationality) instructors? …… … **2. Do you prefer Native English speakers instructors to teach you content subjects? Why?** ……	

A6.2: Cronbach Alpha questionnaire constructs

Cronbach Alpha was calculated for each construct of each instructor in the questionnaire, it shows acceptable reliability. The alpha score of Arabic constructs was not calculated because only one sentence was used to measure students' attitudes. as shown in the following.

Constructs	EG instructors	SA instructors	IN/P instructors
Accent	.817	.801	.804
Liking	.959	.863	.888
Teach quality	.868	.757	.767
EMI	.897	.930	.790
Nativeness	.657	.635	.792

A6.3 Main Questionnaire from Qualtrics (English version)

Start of Block: Default Question Block

Consent form and Information sheet for participants

Study title:

Student's attitude towards non-native EMI instructors and its impact on comprehensibility and perceived accentedness of those instructors in Saudi Arabia higher education.

Principal Investigator:
Dr. Claire Cowie [claire.cowie@ed.ac.uk]

Researcher collecting data:
Abeer Alshehri [s1794747@ed.ac.uk]

What is this document? This document explains what kind of study we are doing, what your rights are, and what will be done with your data. After you read this, press accept to proceed and commence the study. **Nature of the study**. You are about to participate in a study about your experiences and feelings about different non-native English instructors who teach you content subjects by using English as a medium of instruction in higher education in Saudi Arabia. The study involves three categorisation experiments, a perception experiment where you listen to stimuli and then answer questions, followed by self-report questionnaires and ends with demographic information questions. The study will last from 35-45 minutes. **Risks and benefits**. There are no known risks to participation in this study. However, you will be contributing to our knowledge about language and will be rewarded a voucher for a free drink in Vibes coffee.

Confidentiality and use of data. All the information we collect during the course of the research will be processed in accordance with Data Protection Law. In order to safeguard your privacy, we will never share personal information (like names) with anyone outside the research team. Your data will be referred to by a unique participant number rather than by name. We will store any personal data (e.g., audio recordings, signed forms) using the University of Edinburgh's secure encrypted storage service or in a locked filing cabinet at the University of Edinburgh. The anonymised data collected during this study will be used for research purposes. With your permission, identifiable data such as recordings may also be used for research or teaching purposes, and may be shared with other researchers or with the general public (e.g., we may make it available through the world wide web, or use it in TV or radio broadcasts). **What are my data protection rights?** The University of Edinburgh is a Data Controller for the information you provide. You have the right to access information held about you. Your right of access can be exercised in accordance Data Protection Law. You also have other rights including rights of

correction, erasure and objection. For more details, including the right to lodge a complaint with the Information Commissioner's Office, please visit www.ico.org.uk. Questions, comments and requests about your personal data can also be sent to the University Data Protection Officer at dpo@ed.ac.uk. **Voluntary participation and right to withdraw.** Your participation is voluntary, and you may stop at any time and for any reason. If you wish to withdraw from the study during or after data gathering, we will delete your data and there is no penalty or loss of benefits to which you are otherwise entitled. If you have any questions about what you've just read, please feel free to ask, or contact us later. You can contact us by email at [s1794747@ed.ac.uk]. This project has been approved by PPLS Ethics committee. If you have questions or comments regarding your rights as a participant, they can be contacted at 0131 650 4020 or ppls.ethics@ed.ac.uk. If you have any questions about what you've just read, please feel free to ask them now. Thank you for your help! **Now please if you would like to proceed with the study, press ACCEPT to commence the study.**

- ○ Yes, I consent
- ○ No, I do not consent

End of Block: Default Question Block

Start of Block: ID-Q

Your name, please (it will remain anonymous)

_____

End of Block: ID-Q

Part I (speech constructs' perceptions)

Start of Block: CA-instruction

In the next question you will listen to six recordings of six speakers, each recording will be heard twice, each speaker will read in English four general sentences from normal life. You need to listen to these sentences and then judge every sentence whether it is True or False and write it in the designated place (under each audio clip) with the word 'True' or 'False' in order. After this task is completed, you need to evaluate the speakers on a scale of (1-9) for two purposes:
1. Comprehensibility (how much difficult is understanding the speaker's speech) where number 1 in the scale means (very difficult to understand sentences) and number 9 means (very easy to understand sentences).

2. accent (how strong the accent of the speaker is) where the number 1 in the scale means (very strong accent) and number 9 means (no accent)

End of Block: CA-instruction

Start of Block: IN1-CA-test

Listen to **speaker 1**, then decide what is the correct sentence and what is the wrong sentence by writing (True) or (False) in the designated area. And then evaluate the speakers in terms of comprehensibility and foreign accentedness.

_____

_____

_____

_____

The speaker you just listened to was

	very difficult to understand 1	2	3	4	5	6	7	8	very easy to understand 9
Speaker 1	○	○	○	○	○	○	○	○	○

The speaker you just listened to was

	very strong accent 1	2	3	4	5	6	7	8	no accent 9
Speaker 1	○	○	○	○	○	○	○	○	○

End of Block: IN/P1-ICA-test

Start of Block: IN/P2-ICA-T/F

Listen to **speaker 2**, then decide what is the correct sentence and what is the wrong sentence by writing (True) or (False) in the designated area. And then evaluate the speakers in terms of comprehensibility and foreign accentedness.

_____

_____

_____

_____

The speaker you just listened to was

	very difficult to understand 1	2	3	4	5	6	7	8	very easy to understand 9
Speaker 2	○	○	○	○	○	○	○	○	○

The speaker you just listened to was

	very strong accent 1	2	3	4	5	6	7	8	no accent 9
Speaker 2	○	○	○	○	○	○	○	○	○

End of Block: IN/P2-ICA-T/F

Start of Block: EG1-ICA-test

*Listen to **speaker 3**, then decide what is the correct sentence and what is the wrong*

sentence by writing (True) or (False) in the designated area. And then evaluate the speakers in terms of comprehensibility and foreign accentedness.

_____

_____

_____

_____

The speaker you just listened to was

	very difficult to understand 1	2	3	4	5	6	7	8	very easy to understand 9
Speaker 3	○	○	○	○	○	○	○	○	○

The speaker you just listened to was

	very strong accent 1	2	3	4	5	6	7	8	no accent 9
Speaker 3	○	○	○	○	○	○	○	○	○

End of Block: EG1-ICA-test

Start of Block: EG2-ICA-test

Listen to **speaker 4,** then decide what is the correct sentence and what is the wrong sentence by writing (True) or (False) in the designated area. And then evaluate the speakers in terms of comprehensibility and foreign accentedness.

_____

_____

_____

_____

The speaker you just listened to was

	very difficult to understand 1	2	3	4	5	6	7	8	very easy to understand 9
Speaker 4	○	○	○	○	○	○	○	○	○

The speaker you just listened to was

	very strong accent 1	2	3	4	5	6	7	8	no accent 9
Speaker 4	○	○	○	○	○	○	○	○	○

End of Block: EG2-ICA-test

Start of Block: SA1-ICA-test

*Listen to **speaker 5**, then decide what is the correct sentence and what is the wrong sentence by writing (True) or (False) in the designated area. And then evaluate the speakers in terms of comprehensibility and foreign accentedness.*

_____

_____

_____

_____

The speaker you just listened to was

	very difficult to understand 1	2	3	4	5	6	7	8	very easy to understand 9
Speaker 5	○	○	○	○	○	○	○	○	○

The speaker you just listened to was

	very strong accent 1	2	3	4	5	6	7	8	no accent 9
Speaker 5	○	○	○	○	○	○	○	○	○

End of Block: SA1-ICA-test

Start of Block: SA2-ICA-test

*Listen to **speaker 6**, then decide what is the correct sentence and what is the wrong sentence by writing (True) or (False) in the designated area. And then evaluate the speakers in terms of comprehensibility and foreign accentedness.*

_____

_____

_____

_____

_____

The speaker you just listened to was

	very difficult to understand 1	2	3	4	5	6	7	8	very easy to understand 9
Speaker 6	○	○	○	○	○	○	○	○	○

The speaker you just listened to was

	very strong accent 1	2	3	4	5	6	7	8	no accent 9
Speaker 6	○	○	○	○	○	○	○	○	○

End of Block: SA2-ICA-test

Part II (Explicit attitudes)

Start of Block: IN/P-Explicit-items

Please answer the following questions about your instructor who is teaching you content subjects by using English as a medium of instruction. Select the answer that corresponds to your feelings, according to the following scale.

Strongly disagree, Disagree, Not sure, Agree, Strongly agree.

	Strongly disagree	Disagree	Not sure	Agree	I strongly agree
I understand what Indian/Pakistani instructors are saying without a problem	○	○	○	○	○
I understand Indian/Pakistani instructors' pronunciations so easily	○	○	○	○	○
I will be happy to have Indian/Pakistani instructors.	○	○	○	○	○
I would enjoy taking another class with Indian/Pakistani instructors	○	○	○	○	○
Indian/Pakistani instructors' subject knowledge is excellent.	○	○	○	○	○
Indian/Pakistani instructors can clearly communicate the content of the lectures.	○	○	○	○	○
Native English speakers (e.g., American and British) make the best instructors to teach content subjects.	○	○	○	○	○

I prefer Native English speakers (e.g., American and British) to teach me content subjects instead of Indian/Pakistani instructors.	○	○	○	○	○
I can learn subjects just as well from Indian/Pakistani instructors as from Native English instructors.	○	○	○	○	○
Indian/Pakistani instructors' English helps me to improve my oral English.	○	○	○	○	○
Indian/Pakistani instructors' English helps me to improve my academic English.	○	○	○	○	○
I like Indian/Pakistani instructors because they do not speak Arabic in the class.	○	○	○	○	○

What are three words that you think probably best describe Indian/Pakistani instructors?

_____

_____

End of Block: IN/P-Explicit-items/ Start of Block: SA-explicit-items

	Strongly disagree	Disagree	Not sure	Agree	Strongly agree
I understand what Saudi instructors are saying without a problem	○	○	○	○	○
I understand Saudi instructors' pronunciations so easily	○	○	○	○	○
I will be happy to have Saudi instructors.	○	○	○	○	○
I would enjoy taking another class with Saudi instructors	○	○	○	○	○
Saudi instructors' subject knowledge is excellent.	○	○	○	○	○
Saudi instructors can clearly communicate the content of the lectures.	○	○	○	○	○
I prefer Native English speakers (e.g., American and British) to teach me content subjects instead of Saudi instructors.	○	○	○	○	○

I can learn subjects just as well from Saudi instructors as from Native English instructors.	○	○	○	○	○
Saudi instructors' English helps me to improve my oral English.	○	○	○	○	○
Saudi instructors' English helps me to improve my academic English.	○	○	○	○	○
I like Saudi instructors because they speak Arabic in the class.	○	○	○	○	○

What are three words that you think probably best describe Saudi instructors?

_____

_____

End of Block: SA-Explicit-items

Start of Block: EG-explicit-items

	Strongly disagree	Disagree	Not sure	Agree	Strongly agree
I understand what Egyptian instructors are saying without a problem	○	○	○	○	○
I understand Egyptian instructors' pronunciations so easily	○	○	○	○	○
I will be happy to have Egyptian instructors.	○	○	○	○	○
I would enjoy taking another class with Egyptian instructors	○	○	○	○	○
Egyptian instructors' subject knowledge is excellent.	○	○	○	○	○
Egyptian instructors can clearly communicate the content of the lectures.	○	○	○	○	○
I prefer Native English speakers (e.g., American and British) to teach me content subjects instead of Egyptian instructors.	○	○	○	○	○

I can learn subjects just as well from Egyptian instructors as from Native English instructors.	○	○	○	○	○
Egyptian instructors' English helps me to improve my oral English.	○	○	○	○	○
Egyptian instructors' English helps me to improve my academic English.	○	○	○	○	○
I like Egyptian instructors because they speak Arabic in the class.	○	○	○	○	○

What are three words that you think probably best describe Egyptian instructors?

_____

_____

Do you prefer Native English speakers instructors to teach you content subjects? Why?

_____

_____

End of Block: EG-explicit-items

Part III (demographic information)

Please answer the following personal questions. They require you to tick a box and some also ask you for more information

Age

_____

Gender

- ○ Male
- ○ Female

What is the longest period of time you have spent outside Saudi Arabia? And where?

- ○ I have never been
- ○ Under 4 weeks
- ○ 5-12 weeks
- ○ 3-6 months _____
- ○ 7 months to one year

_____

- ○ More than one year

_____

Where did you study before enrolling University?

- ○ Public school
- ○ Private school

Did you ever study private English institution? If yes where and how long?

- [ ] Yes _____
- [ ] No

What is your major at the university?

- ○ Medicine
- ○ Pharmacology
- ○ Computer Science
- ○ Applied Science
- ○ Other _____

What is your current university level?

- ○ First year
- ○ Second year
- ○ Third year
- ○ Fourth year
- ○ Fifth year
- ○ Other _____

How do you perceive your own English level?

- ○ Beginner
- ○ intermediate
- ○ Advanced

Where do your current and previous content subjects instructors come from? (Please TICK as many as you want). How many from each country?

	None	1	2	3	4	5	more than 5
Saudi	○	○	○	○	○	○	○
Egyptian	○	○	○	○	○	○	○
Indian/Pakistani	○	○	○	○	○	○	○
Sudan	○	○	○	○	○	○	○
American	○	○	○	○	○	○	○
British	○	○	○	○	○	○	○
South African	○	○	○	○	○	○	○
Other	○	○	○	○	○	○	○

End of Block: Block 12

Start of Block: Block 13

How much time have you consumed on media (National Channels) per hour (h) in a week?

	Never	Less than hour	1-2 hours	2-3 hours	More than 3 hours
Arabic	○	○	○	○	○
English	○	○	○	○	○

How much time have you consumed on media (Youtube) per hour (h) in a week?

	Never	Less than hour	1-2 hours	2-3 hours	More than 3 hours
Arabic	○	○	○	○	○
English	○	○	○	○	○

How much time have you consumed on media (Netflix) per hour (h) in a week?

	Never	Less than hour	1-2 hours	2-3 hours	More than 3 hours
Arabic	○	○	○	○	○
English	○	○	○	○	○

End of Block: Block 13

We thank you for your time spent taking this survey.

Your response has been recorded.

A6.4 Main Questionnaire from Qualtrics (Arabic version)

Default Question Block

نموذج موافقة المشارك والاتفاق على استخدام البيانات مستند معلومات للمشاركين و

عنوان الدراسة :	اتجاهات الطلاب نحو الأساتذة غير الأصليين الذين يستخدمون الإنجليزية كوسيلة للتعليم، وتأثيره على الفهم واللكنة المتصورة للأساتذة في التعليم العالي في المملكة العربية السعودية
الباحث الرئيسي:	د. كليركيوي [claire.cowie@ed.ac.uk]
الباحث جمع البيانات:	عبير الشهري [s1794747@ed.ac.uk]

ما هو هذا المستند؟ يشرح هذا المستند نوع الدراسة التي نقوم بها وما هي حقوقك وما الذي سيتم القيام به مع بياناتك. بعد قراءة المستند، في حال الرغبة في المواصلة في عمل الدراسة اضغطي على
كلمة موافق وبعدها سوف تستأنفين الدراسة،،،

طبيعة الدراسة: أنت على وشك المشاركة في دراسة عن تجربتك ومواقفك تجاه الأستاذات غير الأصليين (الذين يتحدثون اللغة الإنجليزية كلغة ثانية كالأستاذة السعودية، المصرية، الهندية/ الباكستانية) والذين يقومون بتدريسك مواد التخصص باستخدام اللغة الإنجليزية كوسيلة للتعليم في التعليم العالي في المملكة العربية السعودية. تتضمن الدراسة ٣ تجارب تصنيفية، ويليها تجربة إدراك حيث تستمعين إلى مقاطع صوتية ومن ثم تجيبين على أسئلة سوف تكون مكتوبة أمامك، تليها استبيان تقرير ذاتي عن الأستاذات، وفي الأخير استبيان معلومات ديموغرافية ذاتية عنك. سوف تستمر الدراسة كاملة لمدة تصل إلى ٣٥-٤٥ دقيقة

المخاطر والفوائد: لا توجد مخاطر معروفة على المشاركة في هذه الدراسة. ولكنك سوف ستساهمين في معرفتنا باللغة وسوف تحصلين . على فوتشرلمشروب مجاني في كوفي فايز.

سرية واستخدام البيانات: ستتم معالجة جميع المعلومات التي نجمعها أثناء البحث وفقًا لقانون حماية البيانات. لحماية خصوصيتك، لن نشارك المعلومات الشخصية (مثل الأسماء) مع أي شخص خارج فريق البحث. ستتم الإشارة إلى بياناتك برقم مشارك فريد بدلاً من الاسم. سنقوم بتخزين أي بيانات شخصية (مثل التسجيلات الصوتية والنماذج الموقعة) باستخدام خدمة التخزين المشفرة الآمنة بجامعة إدنبره أو في خزانة ملفات مغلقة في جامعة إدنبرة. سوف يتم استخدام البيانات الغير معرّفة التي تم جمعها خلال هذه الدراسة لأغراض البحث وقد يتم مشاركتها مع باحثين آخرين. بعد أخذ الموافقة، قد تستخدم البيانات المعرّفة مثل (التسجيلات الصوتية) لأغراض البحث أو التدريس أو قد يتم مشاركتها مع باحثين آخرين أو للاستخدام العام (على سبيل المثال، قد تكون متاحة عبر شبكة الويب العالمية أو استخدامها في البث التلفزيوني والإذاعي).

ما هي حقوق حماية البيانات الخاصة بي؟ جامعة إدنبره لديها وحدة تحكم البيانات للحصول على المعلومات التي تقدمها. لديك الحق في الوصول إلى المعلومات الخاصة بك. ويمكنك ممارسة حقك في الوصول وفقًا لقانون حماية البيانات. لديك أيضًا حقوق أخرى بما في ذلك حقوق التصحيح والمحو والاعتراض. لمزيد من التفاصيل يرجى زيارة www.ico.org.uk

يمكن أيضًا إرسال الأسئلة والتعليقات والطلبات المتعلقة ببياناتك الشخصية إلى مسؤول حماية البيانات بالجامعة على العنوان [dpo@ed.ac.uk].

المشاركة الطوعية والحق في الانسحاب: مشاركتك طوعية، ويمكنك التوقف في أي وقت ولأي سبب. إذا كنت ترغب في الانسحاب من الدراسة أثناء أو بعد جمع البيانات، فسنحذف بياناتك ولا توجد عقوبة أو خسارة في المزايا التي يحق لك الحصول عليها

إذا كانت لديك أي أسئلة حول ما قرأته للتو، فلا تتردد في طرحه، أو الاتصال بنا لاحقًا. يمكنك الاتصال بنا عبر البريد الإلكتروني [s1794747@ed.ac.uk]

تمت الموافقة على هذا المشروع من قبل لجنة الأخلاقيات في PPLS ،، إذا كانت لديك أسئلة أو تعليقات بشأن حقوقك كمشارك، فيُمكن الاتصال بها على 0131 650 4020 أو [ppls.ethics@ed.ac.uk].

إذا كانت لديك أي أسئلة حول ما قرأته للتو، فلا تتردد في طرح الأسئلة،، الآن في حال الرغبة في المواصلة في عمل الدراسة اضغطي على كلمة موافق وبعدها سوف تستأنفين الدراسة. شكرا لك على مساعدتك

Consent form and Information sheet for participants

Study title:	Student's attitude towards non-native EMI instructors and its impact on comprehensibility and perceived accentedness of those instructors in Saudi Arabia higher education.
Principal Investigator:	Dr. Claire Cowie [claire.cowie@ed.ac.uk]
Researcher collecting data:	Abeer Alshehri [s1794747@ed.ac.uk]

What is this document? This document explains what kind of study we're doing, what your rights are, and what will be done with your data. After you read this, press accept to proceed and commence the study.

Nature of the study. You are about to participate in a study about your experiences and feelings about different non-native English instructors who teach you content subjects by using English as a medium of instruction in higher education in Saudi Arabia. The study involves three categorisation experiments, a perception experiment where you listen to stimuli and then answer questions, followed by self-report questionnaires and ends with demographic information questions. The study will last from 35-45 minutes.

Risks and benefits. There are no known risks to participation in this study. However you will be contributing to our knowledge about language and will be rewarded a voucher for a free drink in Vibes

Confidentiality and use of data. All the information we collect during the course of the research will be processed in accordance with Data Protection Law. In order to safeguard your privacy, we will never share personal information (like names) with anyone outside the research team. Your data will be referred to by a unique participant number rather than by name. We will store any personal data (e.g., audio recordings, signed forms) using the University of Edinburgh's secure encrypted storage service or in a locked filing cabinet at the University of Edinburgh. The anonymised data collected during this study will be used for research purposes. With your permission, identifiable data such as recordings may also be used for research or teaching purposes, and may be shared with other researchers or with the general public (e.g., we may make it available through the world wide web, or use it in TV or radio broadcasts).

What are my data protection rights? The University of Edinburgh is a Data Controller for the information you provide. You have the right to access information held about you. Your right of access can be exercised in accordance Data Protection Law. You also have other rights including rights of correction, erasure and objection. For more details, including the right to lodge a complaint with the Information Commissioner's Office, please visit www.ico.org.uk. Questions, comments and requests about your personal data can also be sent to the University Data Protection Officer at dpo@ed.ac.uk.

Voluntary participation and right to withdraw. Your participation is voluntary, and you may stop at any time and for any reason. If you wish to withdraw from the study during or after data gathering, we will delete your data and there is no penalty or loss of benefits to which you are otherwise entitled.

If you have any questions about what you've just read, please feel free to ask, or contact us later. You can contact us by email at [s1794747@ed.ac.uk]. This project has been approved by PPLS Ethics committee. If you have questions or comments regarding your rights as a participant, they can be contacted at 0131 650 4020 or ppls.ethics@ed.ac.uk.

If you have any questions about what you've just read, please feel free to ask them now. Thank you for your help! **Now please if you would like to proceed with the study, press ACCEPT to commence the study.**

- ○ موافق
- ○ غير موافق

ID-Q

(الرجاء كتابة الاسم الثلاثي (مع العلم بأنه سيبقى مجهول

CA-instruction

في السؤال القادم سوف تستمعين الى ستة تسجيلات لستة متحدثين، كل تسجيل سيتم الاستماع اليه مرتين فقط ، كل متحدث سيقرأ بالإنجليزي أربع جمل عامة من الحياة العادية. تحتاجين الى الاستماع إليها ،، جيدا و من ثم الحكم **على كل جملة** هل هي (صحيحة أم خاطئة وكتابة ذلك في المكان المخصص (تحت كل مقطع صوتي) بكلمة (صح) أو (خطأ

بعد الانتهاء من الاستماع ، قيّمي المتحدث على مقياس من (١-٩) بحيث يكون التقييم لغرضين:

١. الفهم (مقدار الفهم من المتحدث) حيث رقم ١ في المقياس يعني (من السهل جداً فهم الجمل) ورقم ٩ يعني (من الصعب جدا فهم الجمل) والتدرج فيما بينها على حسب مقدار فهمك

٢. اللهجة (مدى قوة لهجة المتحدث) حيث أن رقم ١ في المقياس يعني (لاتوجد لهجة) ورقم ٩ يعني (لهجة قوية جداً) والتدرج فيما

بينهما على حسب تقييمك لقوة اللهجة

مع العلم بأن اللهجة تعني الأكسنت في اللغة الإنجليزية وتتقييمك سوف يكون لأكسنت المتحدث هل الأكسنت واضح وقوي ام هو خفيف ام لايوجد أكسنت

IN1-CA-test

-0:13

*استمعي الى المتحدث رقم **1** **مرتين فقط** ثم قرري ماهي الجملة الصحيحة وماهي الجملة الخاطئة بكتابة (صح) أو (خطأ) في المكان المخصص . وبعد ذلك قومي بتقييم الفهم (مقدار الفهم) واللهجة (مدى قوة اللهجة أو الاكسنت) لهذا المتحدث*

المتحدث الذي استمعت إليه للتو كان

من السهل جدا		من الصعب جدا

	فهمه ١	٢	٣	٤	٥	٦	٧	٨	فهمه ٩
المتحدث ١	○	○	○	○	○	○	○	○	○

المتحدث الذي استمعت إليه للتو كان

	لهجة قوية جدا أي أن اللهجة المحلية واضحة جدا ١	٢	٣	٤	٥	٦	٧	٨	لاتوجد لهجة أي أن لهجتها ممتازة ومقاربة للهجة الأمريكية او البريطانية ٩
المتحدث ١	○	○	○	○	○	○	○	○	○

IN2-CA-T/F

-0:14

استمعي الى المتحدث رقم ٢ **مرتين فقط**، ثم قرري ماهي الجملة الصحيحة وماهي الجملة الخاطئة بكتابة (صح) أو (خطأ) في المكان المخصص . وبعد ذلك قومي بتقييم الفهم (مقدار الفهم) واللهجة (مدى قوة اللهجة أو الاكسنت) لهذا المتحدث

المتحدث الذي استمعت إليه للتو كان

	من الصعب جدا فهمه								من السهل جدا فهمه

	١	٢	٣	٤	٥	٦	٧	٨	٩
المتحدث رقم ٢	○	○	○	○	○	○	○	○	○

المتحدث الذي استمعت إليه للتو كان

	لهجة قوية جدا أي أن اللهجة المحلية واضحة جدا								لا توجد لهجة أي أن لهجتها ممتازة ومقاربة للهجة الأمريكية أو الربيطانية
	١	٢	٣	٤	٥	٦	٧	٨	٩
المتحدث رقم ٢	○	○	○	○	○	○	○	○	○

EG1-CA-test

-0:12

*استمعي الى المتحدث رقم ٣ **مرتين فقط**، ثم قرري ماهي الجملة الصحيحة وماهي الجملة الخاطئة بكتابة (صح) أو (خطأ) في المكان المخصص . وبعد ذلك قومي بتقييم الفهم (مقدار الفهم) واللهجة (مدى قوة اللهجة أو الاكسنت) لهذا المتحدث*

المتحدث الذي استمعت إليه للتو كان

	من الصعب جدا فهمه ١	٢	٣	٤	٥	٦	٧	٨	من السهل جدا فهمه ٩
المتحدث رقم ٣	○	○	○	○	○	○	○	○	○

المتحدث الذي استمعت إليه للتو كان

	لهجة قوية جدا أي أن اللهجة المحلية واضحة جدا ١	٢	٣	٤	٥	٦	٧	٨	لا توجد لهجة أي أن لهجتها ممتازة ومقاربة للهجة الأمريكية او البريطانية ٩
المتحدث رقم ٣	○	○	○	○	○	○	○	○	○

EG2-CA-test

-0:10

*استمعي الى المتحدث رقم ٤ **مرتين فقط**، ثم قرري ماهي الجملة الصحيحة وماهي الجملة الخاطئة بكتابة (صح) أو (خطأ) في المكان المخصص. وبعد ذلك قومي بتقييم الفهم (مقدار الفهم) واللهجة (مدى قوة اللهجة أو الاكسنت) لهذا المتحدث*

المتحدث الذي استمعت إليه للتو كان

	من الصعب جدا فهمه	١	٢	٣	٤	٥	٦	٧	٨	٩ من السهل جدا فهمه
المتحدث رقم ٤	○	○	○	○	○	○	○	○	○	○

المتحدث الذي استمعت إليه للتو كان

	١ لهجة قوية جدا أي أن اللهجة المحلية واضحة جدا	٢	٣	٤	٥	٦	٧	٨	٩ لا توجد لهجة أي أن لهجتها ممتازة ومقاربة للهجة الأمريكية او البريطانية
المتحدث رقم ٤	○	○	○	○	○	○	○	○	○

SA1-CA-test

-0:12

*استمعي الى المتحدث رقم ٥ **مرتين فقط**، ثم قرري ماهي الجملة الصحيحة وماهي الجملة الخاطئة بكتابة (صح) أو (خطأ) في المكان المخصص. وبعد ذلك قومي بتقييم الفهم (مقدار الفهم) واللهجة (مدى قوة اللهجة أو الاكسنت) لهذا المتحدث*

المتحدث الذي استمعت إليه للتو كان

	من الصعب جدا فهمه ١	٢	٣	٤	٥	٦	٧	٨	من السهل جدا فهمه ٩
المتحدث رقم ٥	○	○	○	○	○	○	○	○	○

المتحدث الذي استمعت إليه للتو كان

	لهجة قوية جدا أي أن اللهجة المحلية واضحة جدا ١	٢	٣	٤	٥	٦	٧	٨	لا توجد لهجة أي أن لهجتها ممتازة ومقاربة للهجة الأمريكية او البريطانية ٩
المتحدث رقم ٥	○	○	○	○	○	○	○	○	○

SA2-CA-test

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*استمعي الى المتحدث رقم ٦ **مرتين فقط**، ثم قرري ماهي الجملة الصحيحة وماهي الجملة الخاطئة بكتابة (صح) أو (خطأ) في المكان المخصص. وبعد ذلك قومي بتقييم الفهم (مقدار الفهم) واللهجة (مدى قوة اللهجة أو الاكسنت) لهذا المتحدث*

المتحدث الذي استمعت إليه للتو كان

	من الصعب جدا فهمه ١	٢	٣	٤	٥	٦	٧	٨	من السهل جدا فهمه ٩
المتحدث رقم ٦	○	○	○	○	○	○	○	○	○

المتحدث الذي استمعت إليه للتو كان

	لهجة قوية جدا أي أن اللهجة المحلية واضحة جدا ١	٢	٣	٤	٥	٦	٧	٨	لا توجد لهجة أي أن لهجتها ممتازة ومقاربة للهجة الأمريكية او البريطانية ٩
المتحدث رقم ٦	○	○	○	○	○	○	○	○	○

Ind-Explici-items

أرجو الإجابة على الأسئلة التالية حول أستاذتك التي تقوم بتدريسك مواد التخصص بإستخدام اللغة الإنجليزية كوسيلة للتعلم، عن طريق اختيار الخيار المناسب والذي يتوافق مع مشاعرك، وفقاً للمقياس التالي

لا أوافق بشدة ، لا أوافق ، لست متأكدة ، أوافق ، أوافق بشدة

الأستاذة الهندية/الباكستانية

أوافق بشدة	أوافق	لست متأكدة	لاأوافق	لاأوافق بشدة

أفهم ما تقوله الأستاذة الهندية/ الباكستانية من غير مشاكل	○	○	○	○	○
أفهم نطق الإستاذة الهندية/ الباكستانية بكل سهولة	○	○	○	○	○
سأكون سعيدة عندما تدرسني أستاذة هندية/باكستانية	○	○	○	○	○
سأستمتع بأخذ مادة أخرى مع استاذة هندية/باكستانية	○	○	○	○	○
الأستاذة الهندية/الباكستانية متمكنة من مادتها بشكل ممتاز	○	○	○	○	○
الأستاذة الهندية/الباكستانية قادرة على نقل محتوى المحاضرة بكل وضوح	○	○	○	○	○
الأستاذة التي لغتها الأصلية هي اللغة الإنجليزية (كالأمريكية أو البريطانية) هي أفضل أستاذة	○	○	○	○	○
انا أفضّل أستاذة لغتها الإنجليزية اصليه (كالأمريكية أو البريطانية) أن تدرسني مواد التخصص بدلاً من الأستاذة الهندية/الباكستانية	○	○	○	○	○
يمكنني تعلم المواد من الأستاذة الهندية/الباكستانية تماماً كتعلمها من أستاذة لغتها الأصلية اللغة الإنجليزية	○	○	○	○	○
لغة الأستاذة الهندية/الباكستانية تساعدني في تطوير (Oral English) لغتي (إنجليزيتي) الشفوية	○	○	○	○	○
لغة الأستاذة الهندية/الباكستانية تساعدني في تطويرلغتي (academic English) (إنجليزيتي) الأكاديمية	○	○	○	○	○
أفضل الأستاذة الهندية/ الباكستانية لأنها لاتتحدث العربية في الفصل	○	○	○	○	○

ماهي الكلمات الثلاث التي تعتقدين أنها ممكن أن تصف الأستاذة الهندية/الباكستانية؟

SA-Explicit-items

الأستاذة السعودية

	لا أوافق بشدة	لا أوافق	لست متأكدة	أوافق	أوافق بشدة
أفهم ما تقوله الأستاذة السعودية من غير مشاكل	○	○	○	○	○
أفهم نطق الأستاذة السعودية بكل سهولة	○	○	○	○	○
سأكون سعيدة عندما تدرسني أستاذة سعودية	○	○	○	○	○
سأستمتع بأخذ مادة أخرى مع استاذة سعودية	○	○	○	○	○
الاستاذة السعودية متمكنة من مادتها بشكل ممتاز	○	○	○	○	○
الاستاذة السعودية قادرة على نقل محتوى المحاضرة بكل وضوح	○	○	○	○	○
يمكنني تعلم المواد من الأستاذة السعودية تماماً كتعلمها من أستاذة لغتها الأصلية اللغة الإنجليزية	○	○	○	○	○
أنا أفضل أستاذة لغتها الأصلية إنجليزية (كالبريطانية أم الإمريكية) أن تدرسني مواد التخصص بدلاً من الأستاذة السعودية	○	○	○	○	○
لغة الأستاذة السعودية تساعدني في تطوير لغتي (Oral English) أو إنجليزيتي الشفوية	○	○	○	○	○

لغة الأستاذة السعودية تساعدني في تطوير لغتي (Academic English) أو إنجليزيتي الأكاديمية	○	○	○	○	○
أفضل الأستاذة السعودية لأنها تتحدث العربية في الفصل	○	○	○	○	○

ماهي الكلمات الثلاث التي تعتقدين أنها ممكن أن تصف الأستاذة السعودية؟

EG-explicit-items

الأستاذة المصرية

	لاأوافق بشدة	لا أوافق	لست متأكدة	أوافق	أوافق بشدة
أفهم ما تقوله الأستاذة المصرية من غير مشاكل	○	○	○	○	○
أفهم نطق الأستاذة المصرية بكل سهولة	○	○	○	○	○
سأكون سعيدة عندما تدرسني أستاذة مصرية	○	○	○	○	○
سأستمتع بأخذ مادة أخرى مع استاذة مصرية	○	○	○	○	○
الأستاذة المصرية متمكنة من مادتها بشكل ممتاز	○	○	○	○	○
الأستاذة المصرية قادرة على نقل محتوى المحاضرة بكل وضوح	○	○	○	○	○
يمكنني تعلم المواد من الأستاذة المصرية تماماً كتعلمها من أستاذة لغتها الأصلية اللغة الإنجليزية	○	○	○	○	○

أنا أفضل أستاذة لغتها الأصلية إنجليزية (كالبريطانية أم الإمريكية) أن تدرسني مواد التخصص بدلاً من الأستاذة المصرية	○	○	○	○	○
لغة الأستاذة المصرية تساعدني في تطوير لغتي (Oral English) أو إنجليزيتي الشفوية	○	○	○	○	○
لغة الأستاذة المصرية تساعدني في تطوير لغتي (Academic English) أو إنجليزيتي الأكاديمية	○	○	○	○	○
أفضل الأستاذة المصرية لأنها تتحدث العربية في الفصل	○	○	○	○	○

ماهي الكلمات الثلاث التي تعتقدين أنها ممكن أن تصف الأستاذة المصرية؟

هل تفضلين أن تدرسك مواد التخصص أستاذة لغتها الأصلية إنجليزية (كالأمريكية أو البريطانية) ؟ ولماذا؟

Block 12

أرجو الإجابة عن الأسئلة التالية بمعلومات عامه عن نفسك :

العمر

الجنس

- ذكر
- أنثى

ماهي أطول مدة قضيتيها خارة المملكة العربية السعودية ؟ وأين؟

- لم أخرج خارج المملكة العربية السعودية ابداً
- أقل من ٤ أسابيع
- من ٥-١٢ أسبوع
- من ٣-٦ أشهر [ ]
- من ٧ أشهر - سنة [ ]
- أكثر من سنة [ ]

أين درستي قبل التحاقك بالجامعة؟

- مدرسة حكومية
- مدرسة خاصة

هل درستي في معاهد خاصة لتعليم اللغة الأنجليزية؟ اذا الإجابة (نعم) أين ؟ وكم المدة؟

- [ ] نعم [ ]
- [ ] لا

ماهو تخصصك الحالي في الجامعة؟

- طب
- صيدلة
- حاسب
- علوم تطبيقية
- أخرى [ ]

ماهي السنة الدراسية لك الان في الجامعة؟

- السنة الأولى
- السنة الثانية
- السنة الثالثة
- السنة الرابعة
- السنة الخامسة
- غير ذلك [ ]

كيف تقييمين مستواك في اللغة الإنجليزية؟

- مبتدأ
- متوسط
- متقدم

ماهي جنسيات أساتذتك السابقين والحاليين اللذين قاموا بتدريسك مواد التخصص باستخدام اللغة الإنجليزية كلغة التواصل ؟ (لك الحرية في وضع أكثر من علامة على أي خيار يناسبك مع ذكر العدد من كل جنسية) ؟

	لايوجد	١	٢	٣	٤	٥	أكثر من ٥
سعودية	○	○	○	○	○	○	○
مصرية	○	○	○	○	○	○	○
هندية/باكستانية	○	○	○	○	○	○	○
السودان	○	○	○	○	○	○	○
أمريكية	○	○	○	○	○	○	○
بريطانية	○	○	○	○	○	○	○
جنوب أفريقيا	○	○	○	○	○	○	○
غير ذلك	○	○	○	○	○	○	○

Block 13

١. كم من الوقت تقضينه (بالساعة) في مشاهدة القنوات على التلفزيون في الأسبوع الواحد؟

	لا أشاهد أطلاقاً	أقل من ساعة	ساعة - ساعتين	ساعتين - ٣ ساعات	أكثر من ٣ ساعات
العربية	○	○	○	○	○
الإنجليزية	○	○	○	○	○

٢. كم من الوقت تقضينه (بالساعة) في مشاهدة اليوتيوب في الأسبوع الواحد؟

	لا أشاهد أطلاقاً	أقل من ساعة	ساعة - ساعتين	ساعتين - ٣ ساعات	أكثر من ٣ ساعات
العربية	○	○	○	○	○
الإنجليزية	○	○	○	○	○

٣. كم من الوقت تقضينه (بالساعة) في مشاهدة نتفلكس في الأسبوع الواحد؟

	لا أشاهد أطلاقاً	أقل من ساعة	ساعة - ساعتين	ساعتين - ٣ ساعات	أكثر من ٣ ساعات
العربية	○	○	○	○	○
الإنجليزية	○	○	○	○	○

A7: Speech constructs

A7.1 Speaker Background Questionnaire for intelligibility experiment.

Speaker (Teacher) questionnaire

Part I. Background Information

1. What is your gender?

   - ( ) Male
   - ( ) Female

2. How old are you?

   - ( ) 25 to 35
   - ( ) 35 to 45
   - ( ) 45 to 55
   - ( ) 55 to 65

3. Where are you from?

……

4. What is your first/ native language?

……

Part II. Educational background

1. What is your highest level of education?

   - ( ) Bachelor's degree
   - ( ) Master's degree
   - ( ) Doctorate degree
   - Other _____

Part III. Teaching experience

1. How long have you been teaching in Saudi Arabia?

   - ( ) 1-5 years
   - ( ) 5-10 years
   - ( ) 10-15 years
   - ( ) 15-20 years

- ( ) more than 20 years

Part IV. Consent for participation

Do you consent to participate in the study?

- ( ) Yes, I consent.
- ( ) No, I do not consent.

Thank you for your participating!

A7.2 Speakers' allocated sentences sentences

Egyptian instructor 1:

a. Exercise is good for your health.
b. Rice is popular in China.
c. People eat through their noses.
d. There are many cities on the moon.

Egyptian instructor 2:

a. Some cows like to read books.
b. Salad is a healthy food.
c. Planes fly through the air.
d. Some people walk on their ears.

Saudi instructor 1:

a. Elephants are big animals.
b. Hot and cold are opposites.
c. In the winter, the snow is green.
d. People play baseball with a piano.

Saudi instructor 2:

a. Apples and oranges are fruits.
b. Most babies like to drink milk.
c. Milk comes from yellow chicken.
d. Ice cream is very hot.

Indian instructor 1:

a. Red and green are colours.
b. Some people eat corn flakes for breakfast.
c. Dogs usually wear gloves on their feet.
d. Many dogs like to smoke cigarettes.

Indian instructor 2:

a. Some people like to watch television.
b. Most children like to eat cookies.
c. Sugar is good for your teeth.
d. Adults are usually younger than children.

A7.3 True/False statements adapted from (Munro & Derwing, 1995b)

Elephants are big animals.
Hot and cold are opposites.
Exercise is good for your health.
Some people love to eat chocolate.
Red and green are colours.
Italy is a country in Europe.
You can buy a burger at McDonald's.
Some people have sandwiches for lunch.
Rice is popular in China.
Apples and oranges are fruits.
Some people eat corn flakes for breakfast.
Salad is a healthy food.
Most babies like to drink milk.
Some people like to watch television.
Planes fly through the air.
Cola is a type of soft drink.
Some people have brown eyes.
Trucks drive on the highway.
Most children like to eat cookies.
You can use credit cards at many stores.

Dogs usually wear gloves on their feet.
June is the first month of the year.
Most horses have sixteen eyes.
All dogs have fifteen legs.
People eat through their noses.
There are many cities on the moon.
Milk comes from yellow chicken.
A monkey is a kind of birds.
Many dogs like to smoke cigarettes.
Ice cream is very hot.
Some cows like to read books.
Sugar is good for your teeth.
The inside of an egg is blue
Some people walk on their ears.
Most fish live on dry Land.

Adults are usually younger than children. Many people can walk on the ceiling. In the winter, the snow is green. Most tigers live in apartment. People play baseball with a piano.

A7.4 sample of Pilot study 2 intelligibility analysis

The analysis of intelligibility task was obtained by matching or mismatching for each content word. Trivial errors such as regularisations, substitution of equivalent forms, spelling mistakes were ignored (following Derwing & Munro, 1997).

Speaker 2 IN/P Sentences 14/14 content words **(bold)** Some **people like** to **watch television**. **4** Most **children like** to **eat cookies**. **4** **Sugar** is **good** for your **teeth. 3** **Adults** are usually **younger** than **children. 3**

some people like to watch television 4 most children like to eat cookies 4 sugar is good for your beef ..... 2 are usually younger than cheldren 2	12/14. 0.85 – 85.7%
Some people like to watch TV- true 4 Most children eat cookies- true 3 Sugar is good for your teeth- false 3 Adults are usually younger than children- false. 3	13 (0.92 – 92.8%)
some people like to watch television(t) , 4 most children like to eat cookies(t) , 4 sugar is good for your teeth(f) 3.	11 – 0.78 – 78.5%
some people like to watch tv. 4 most children like to eat cookies. 4 sugar is good for ur teeth. 3 adults are usually younger than children 3	14/14 1-100%
some people like to watch television. 4 most children like to eat cookies. 4 sugar is good for your teeth. 3 usually younger than children. 2	13 (0.92 – 92.8%)

some people like to watch telavgen 4 some chldren eat cocies. 3	7 – 0.5 -50%
some people e like to watch television true 4 most children like to eat cookies true 4 sugar is good for your ..... 2 adult is usually younger than children (fales 3	13 (0.92 – 92.8%)
some people like to watch television 4 most children like to eat cookies 4 sugar is good for your teeth 3 adult are usually younger than children 3	14/14 1-100%
some people like to watch television, 4 most children like to eat cookies, 4 sugar is good for your teeth, 3 adults are usually younger than children. 3	14/14 1-100%
some people like to watch television 4 most children eat cookies 3 sugar good for your teeth ?? 3 0	10/14 – 0.71 - 71%
1-some people like to watch television 4 2-most children like to eat cookies 4 3-sugar is good for your teeth 3 4-infants are usually younger than children 2 all sentences are understandable	13 (0.92 – 92.8%)
some people like to watch television 4 most children like to eat cookies 4 sugar is good for your teeth ✕ 3 adults are usually younger than children. ✕3	14/14 1-100%
SOME PEAPLE LIKE TO WATCH TELEVESION 4 MOST CHILDREN LIKE TO EAT COOKIES 4 SUGER IS GOOD FOR YOUR 2 ADULTS ARE USUALLY YONGER THAN CHILDREN. 3	13 (0.92 – 92.8%)
some people like to watch television. 4 most children like to eat cookies. 4 sugar is good for your teeth. 3 adults are usually younger than children. 3	14/14 1-100%
some people like to watch television 4 most children like to eat cocis 4 suger is good for your teeth 3 adult is usually younger than children. 3	14/14 1-100%

some people like to watch television , 4 most children like to eat cookies 4 sugar is good for your teeth , 3 14/14 1-100% adults are usually younger than children 3
some people like to wash televegin 3 most chlidern like to eat cookies 4 -sugr cut your teeth – 2 adult ougly younger than childern 3 12/14 – 0.85 – 85.7%
some people like to watch tv 4 most children like to eat cookies. 4 10/14 – 0.71 - 71% sugar is good for death 2

Appendices B: Qualitative Analysis

B1: Initial free codes and descriptions for interviews and Focus groups analysis

Parent Code	Code Description	Example of Free codes
Event	Any reference to the time when event happens e.g., past experience	Past experience, current experience, future expectation
English learning	Any reference to learning English experience	Motivation, conflicts, learning experience,
Emotional response	Any reference to emotional response whether positive or negative talk e.g., adjectives	**Positive**, nice, friendly, working hard, cheerful, good, very good, helpful, better communication, comfortable, kind, happy, better, best. Excellent, strong memory, diligent, creative, perfect, special, cool, calm, honest professional, patient, serious, quick-witted, **Negative:** arrogant, foolish, scary, not helpful, not perfect, funny, not flexible, complicated, hard, difficult complex, rude, talkative, weird, unpleasant attitude, not comfortable, strict, inferior, negative, stupid, lazy, poor,
People	Any reference to people	Saudi instructor, Egyptian instructor, Indian instructor, Sudanese, Pakistani, expatriate, Egyptians, Indians, Saudis, classmates, family, friends, native, American, British
Participants' suggestions	Any reference to participants suggestion regarding instructors (e.g., recruitment)	Teacher: qualification, should have ability to communicate content, recruiters must conduct interviews, change nationalities, evaluating accents, have more experience, evaluating teaching style
English or varieties of English	Reference to English e.g., learning English, accents of English	English Pronunciation, English accents, American accent, British accent, Indian accent, Egyptian accent, Saudi accent, Arabic accent, Global Englishes
Accent	Any reference to non-native accent or pronunciation whether positive or negative adjectives	**Positive:** clear, very clear pronunciation, slow speaker, accent makes easy communication, comprehensible accent, intelligible accent, **Negative:** Not understandable, not clear, wrong pronunciation, bad accent, thick accent, fast speaker, not intelligible accent, quick speech, difficult accent, strange accent

Education	Any reference to teaching styles, instructor qualification, or content organisation of instructors whether positive or negative	**Positive:** qualified, intelligent, knowledgeable, good teaching method, I like her teaching style, good in communicating content subjects, aware of students' needs, good presentation of content **Negative:** not qualified, difficult communication, bad content communication, not flexible,
Shared Arabic background	Any reference to Arabic background whether considered as positive or negative	**Positive:** close in language, shared language, same culture, L1 in class, they can speak Arabic, switching to Arabic, translating terms into Arabic, the instructor's Arabic language will help me **Negative:** no communication**,** difficult to communicate**,** I found it difficult because she cannot speak Arabic, hard to explain my problems if she cannot speak Arabic, hard to understand difficult concepts
Nativeness	Any reference to nativeness by considering Native and non-native instructors or their accent	I would prefer the instructor to be native, native English is the best, native English (American) is easy to pronounce, I prefer hearing native accent, I would hire native speakers
Behaviour	Any reference to behaviour related to attitude	Showing annoyance, saying oof, playing with phones, drop classes, not attending lectures.

B.2: Themes and subthemes of the thematic analysis process

Themes	Subthemes	Example of coding	examples
1- Attitudes towards NNES EMI instructors	1- She can (not) speak Arabic	**Positive:** close in language, shared language, same culture, same accent, L1 in class, switching to Arabic, translating terms into Arabic **Negative:** no communication**,** difficult to communicate**,** hard to explain my problems, hard to understand difficult concepts	**I.RAN:** Yes, so if I encounter a problem, I can communicate with the instructors easily. I do care that the doctor is speaking Arabic particularly in other courses more than English because I need a complete understanding of what I am studying not only passing the exam, you know some times there are particular points that need further explanation to be completely understood, and that would not be possible by using English only, the instructor's Arabic language will help me in that, I mean the instructor is using Arabic also.
	2- She has clear accent and pronunciation	**Positive:** clear pronunciation, easy accent to communication, comprehensible, I understand her accent, intelligible accent, I like her accent **Negative:** accent is Not understandable, not clear, wrong pronunciation, bad accent, thick accent, not intelligible accent, difficult accent, strange accent	**I.ATH:** they have problems in their accent, they change words' pronunciations completely and pronounce them in their ways, the Egyptian ways…. I do not like them and their ways of dealing with others, honestly, I do not like them. so, it is not good
	3- I like her teaching quality	**Positive:** qualified, good teaching method, good teaching style, good in communicating content subjects, aware of students' needs, good presentation of content	**I.AMR:** because of teaching quality as Saudi instructors usually use varieties of methods to explain and help us to understand…

		Negative: not qualified, difficult content communication, not flexible, inability to explain lessons appropriately.	
	4- It is not about nationality	regardless of her nationality, no matter what her nationality is, it is not about nationality, no matter what accents, nationality is not as important as knowledge	**I.AMR:** maybe Egyptian, but to be honest I have no preference to any particular nationality, what really matters is to be taught by an instructor who is knowledgeable and can communicate the information easily
3- Students' further needs	1- Suggestions for instructor's recruitment	instructor: qualification, should have ability to communicate content, recruiters must conduct interviews, change nationalities, evaluating accents, have more experience, evaluating teaching style	**I.ATH:** I feel that it is important before hiring an instructor, they should evaluate his/her teaching qualification and his/her ways of dealing with others. Sometimes we asked a question and discovered that the instructor understands nothing and refused to help us; therefore, it is necessary to conduct interviews before recruiting those instructors to judge their teaching suitability.

B.3: Interviews codes' combinations with positive and negative (frequencies)

Codes	Overall frequencies	Students			
		I.AMR	I.RDA	I.RAN	I.ATH
IN/P accent & negative	16	x	x	x	x
IN/P accent & positive	1	x			
EG accent & negative	9	x	x	x	x
EG accent & positive	5	x	x		
SA accent & negative	3	x	x		x
SA accent & positive	9	x		x	x
instructor & teaching quality negative	5	x	x	x	x
instructor & teaching quality positive	5	x	x		x
Arabic background & positive	14	x	x	x	x
Arabic background & negative	4	x			x
Global English& positive	4	x	x	x	x

B.4: Focus groups codes' combinations with positive and negative (frequencies)

Codes	Overall frequencies	Group															
		FG1								FG2							
		F.NJL	F.FTM	F.SAR	F.HAN	F.WAL	F.NOH	F.MAR	F.SAL	F.LAM	F.BYN	F.REH	F.RAF	F.HAS	F.MAN	F.RAW	F.REM
IN/P accent & negative	25	x	x	x		x	x	x	x	x	x	x	x	x	x	x	
IN/P accent & positive	3				x												x
EG accent & negative	10	x	x	x	x							x			x		x
EG accent & positive	6					x	x			x						x	
SA accent & negative	3	x	x		x												

SA accent & positive	12	x		x	x		x		x			x		x	x		x
instructor & teaching quality negative	5			x	x			x									
instructor & teaching quality positive	9	x	x			x		x		x		x			x	x	
Arabic background & (positive)	18	x	x	x	x				x		x			x		x	
Arabic background & (negative)	5	x			x							x	x				
Global English & positive	6	x			x		x				x					x	x
Global English &	1														x		

negative																

B.5: Example of notes taken after the interviews

'Participants appear to relax more with Saudi instructors; participants' familiarities with instructors seem to be important to prefer them'

'There appears discrepancy in students' perspectives when they talk about instructors from different L1 background'.

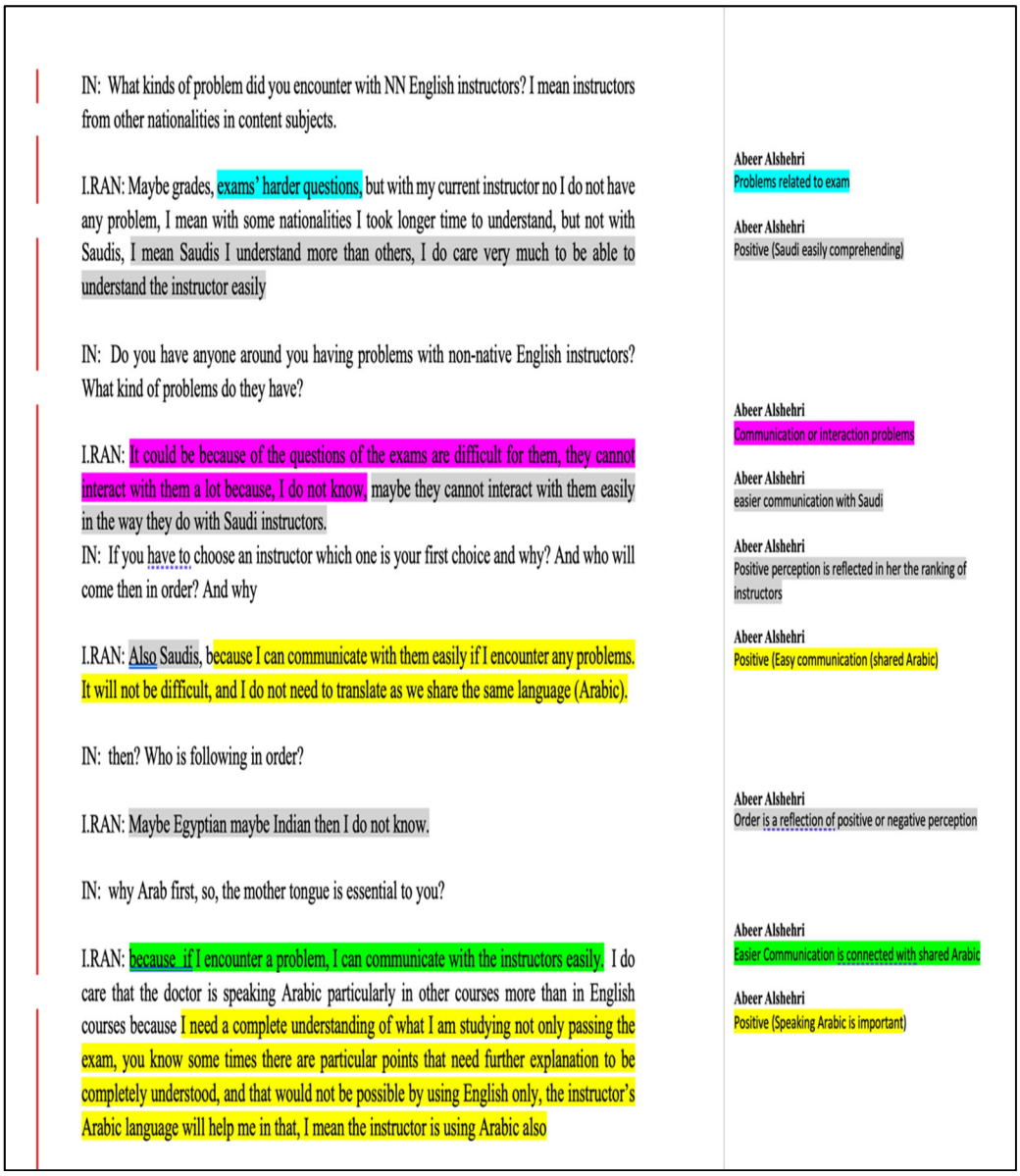
'Different majors and academic years seem to have impact on participants' perspectives towards their instructors; medical participants seem to prefer EG, computer participants not'

'Participants heavily emphasise on the accent and comprehensibility of their instructors and most of their experiences based on these two factors; these seem to be recurrent topics to them'

'Participants often speak of having Arab instructors as a granted, and participants should be taught by Arab instructors; participants do not seem to have confidence in their language prof.; E proficiency appears to be an obstacle for participants'

'The value of subject knowledge is prioritised above language learning; participants prioritised academic knowledge as a primary aim, followed by language learning; nevertheless, one participant prefers to have both'

B6: Example of manual coding technique



IN: What kinds of problem did you encounter with NN English instructors? I mean instructors from other nationalities in content subjects.

I.RAN: Maybe grades, exams' harder questions, but with my current instructor no I do not have any problem, I mean with some nationalities I took longer time to understand, but not with Saudis, I mean Saudis I understand more than others, I do care very much to be able to understand the instructor easily

IN: Do you have anyone around you having problems with non-native English instructors? What kind of problems do they have?

I.RAN: It could be because of the questions of the exams are difficult for them, they cannot interact with them a lot because, I do not know, maybe they cannot interact with them easily in the way they do with Saudi instructors.

IN: If you have to choose an instructor which one is your first choice and why? And who will come then in order? And why

I.RAN: Also Saudis, because I can communicate with them easily if I encounter any problems. It will not be difficult, and I do not need to translate as we share the same language (Arabic).

IN: then? Who is following in order?

I.RAN: Maybe Egyptian maybe Indian then I do not know.

IN: why Arab first, so, the mother tongue is essential to you?

I.RAN: because if I encounter a problem, I can communicate with the instructors easily. I do care that the doctor is speaking Arabic particularly in other courses more than in English courses because I need a complete understanding of what I am studying not only passing the exam, you know some times there are particular points that need further explanation to be completely understood, and that would not be possible by using English only, the instructor's Arabic language will help me in that, I mean the instructor is using Arabic also

Abeer Alshehri
Problems related to exam

Abeer Alshehri
Positive (Saudi easily comprehending)

Abeer Alshehri
Communication or interaction problems

Abeer Alshehri
easier communication with Saudi

Abeer Alshehri
Positive perception is reflected in her the ranking of instructors

Abeer Alshehri
Positive (Easy communication (shared Arabic)

Abeer Alshehri
Order is a reflection of positive or negative perception

Abeer Alshehri
Easier Communication is connected with shared Arabic

Abeer Alshehri
Positive (Speaking Arabic is important)

B7: The adjectives used by participants in interviews and focus groups

No	adjectives	frequencies
1	Good or very good accent	25
2	Clear	23
3	Understandable	21
4	Easy or easy to understand	19
5	Hard or difficult to understand	15
6	fast	10
7	nice	9
8	Intelligible	8
9	Foolish	7
10	Helpful/supportive	7
11	Wrong pronunciation	7
12	Flexible	7
13	Hard or difficult pronunciation or accent	7
14	Perfect	7
15	Strict	6
16	Kind	6
17	Arrogant	6
18	Not clear	6
19	Happy	6
20	intelligent	6
21	Inferior	5
22	Respectful	5
23	Talkative	4
24	Friendly	4
25	Serious	4
26	Bad	3
27	unintelligible	3
28	Scary	3
2930	Lazy	3
31	Positive	3
32	Sleep lover	3
33	thick pronunciation or accent	3
34	Negative	3
35	Knowledgeable	3
36	Rude	3
37	Disciplined	3
38	Complicated	2
39	Funny	2
40	Excellent	2
41	Stupid	2

42	Low	2
43	Racist	2
44	Comfortable	2
45	Weak	2
46	Slow	2
47	Not flexible	2
48	Angry	2
49	Annoyed	2
50	nervous	2
51	Honest	2
52	Weird	2
53	Professional	2
54	manageable	1
55	Educated	1
56	fair	1
57	Preferable	1
58	Unfair	1
59	Responsible	1
60	Accepted	1
61	Useful	1
62	Villainous	1
63	Money lovers	1
64	Hard worker	1
65	Strange	1
66	complex	1
67	Not helpful	1
68	Unpleasant	1
69	Fantastic	1
70	Qualified	3
71	Harmful	1
72	Villainous	1
73	Playful	1
74	Sad	1
75	Practical	1
76	Elegant	1
77	Strong memory	1
78	Diligent	1
79	Creative	1
80	Special	1
81	Cool	1
82	Calm	1
83	Patient	1
84	Quick-witted	1

Appendices C: Quantitative analysis

C1: IAT individual D score for each participant for the three IATs

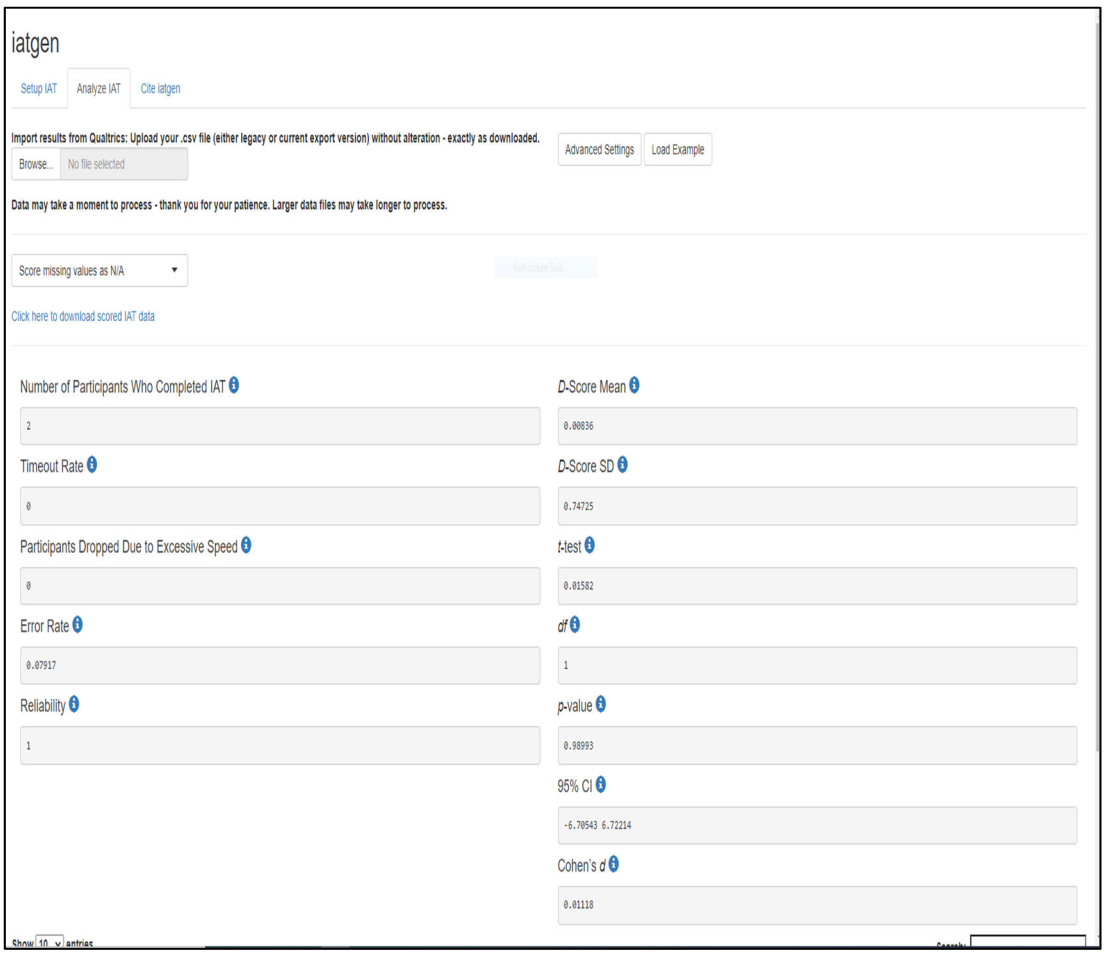
IDs	SA vs IN/P	SA vs EG	EG vs IN/P
P1	-0.2714773	0.73379323	0.36249131
P2	0.66778735	0.60189014	0.13926036
P3	0.3646278	-0.0119179	0.27344712
P4	0.28221413	0.10580372	0.53423324
P5	0.49808928	-0.4703087	0.28165042
P6	0.54771895	0.58559686	0.73920217
P7	0.58794852	0.36511561	-0.0549323
P8	0.28851038	-0.0488701	0.20288407
P9	0.36729907	0.10950559	0.03827899
P10	0.156006	0.7516949	0.45852877
P11	0.66559413	0.34176219	0.90986474
P12	0.30110128	0.68405826	0.01560147
P13	0.59553186	0.776373	0.65993352
P14	0.32213281	0.6343077	0.16584583
P15	0.37740589	0.53594603	0.03793027
P16	0.64269373	0.26615692	0.29592244
P17	0.29674114	0.40451827	-0.1134855
P18	0.10476132	0.35203819	0.46762237
P19	0.73429554	0.29562986	0.20351702
P20	-0.2217604	0.34605061	0.43554532
P21	0.65183075	0.19617516	0.11939309
P22	0.36435676	0.21617984	0.11944055
P23	0.47227893	0.84153412	0.43949664
P24	0.25709321	0.43835302	0.41455351
P25	0.01751299	0.18856424	0.18096992
P26	0.53390125	0.53968449	0.40161905
P27	0.532701	0.70040119	0.09336893
P28	0.18606661	0.30143456	-0.1005339
P29	0.13052166	0.23435842	0.46045468
P30	0.17496547	0.81673709	-0.2332008
P31	0.0245199	0.41003405	-0.1685582
P32	0.3620478	0.62124932	0.50433889
P33	0.52926279	-0.1318426	0.65446614
P34	0.32343344	0.2760419	0.212177
P35	-0.0888708	0.83081574	0.21961362
P36	0.39243015	0.7554495	0.23912793
P37	0.38874802	0.62781849	0.48298326
P38	0.16004194	0.17775712	0.0469955
P39	0.22094809	0.41874698	-0.0401935

P40	0.508231	-0.1136429	0.02546942
P41	0.38236115	0.80943306	0.47449984
P42	0.20677147	0.49348273	0.16332711
P43	0.0573839	0.25783528	0.57044528
P44	0.74963136	0.19144364	-0.2575177
P45	0.79523861	0.32242487	0.35775059
P46	0.2043984	-0.1947825	0.71607336
P47	0.54948285	0.21738909	0.05688577
P48	0.97055643	-0.5399578	0.17106794
P49	0.1171866	0.67160806	-0.1496627
P50	-0.0117812	0.96046011	0.45669173
P51	0.22656487	0.79296327	-0.0025455
P52	0.40717405	-0.0959959	0.35292909
P53	0.31407902	0.32696068	0.34506439
P54	0.37996854	0.18063058	0.65727228
P55	0.41804884	0.57166899	0.13208953
P56	1.00110991	-0.1217706	-0.1194633
P57	0.47285652	0.42746987	0.72856815
P58	0.39664673	0.3072821	0.54961777
P59	0.41916245	0.41518063	0.24832457
P60	0.55814649	-0.3236707	0.46661259
P61	0.60874941	0.34754402	-0.1613458
P62	0.87133004	0.92399628	0.50383012
P63	0.33919792	0.30106381	-0.1871647
P64	1.03467069	0.10884438	0.31259318
P65	0.3238011	0.61425226	0.15483384
P66	0.6278683	0.32601318	-0.0616216
P67	0.4307305	0.40852617	0.34531987
P68	0.33033631	0.33180177	0.60581144
P69	0.87821735	0.21085762	0.61578388
P70	0.53964511	0.28836014	0.04512324
P71	0.44022501	0.61741068	0.46401285
P72	0.19034848	0.19165973	0.39170393
P73	-0.1090151	0.85507782	0.30340185
P74	0.39430639	0.48780033	-0.1002117
P75	-0.1481551	0.55601171	0.16103556
P76	0.72484902	0.29153701	0.26527866
P77	0.3302839	0.42889591	0.05919108
p78	0.36027929	-0.0467667	0.41720373
P79	0.42964783	-0.308019	0.65585034
p80	0.34228051	0.55177875	0.43973708
P81	0.05459125	0.19024318	0.60927367
p82	0.86121595	0.47132212	0.61522098
P83	0.00805278	0.15841693	0.15455391

p84	0.6220678	0.21538514	0.59473055
p85	0.40366306	0.55519258	0.39845847
P86	0.90086911	0.46968954	0.23744745
P87	0.3336408	0.44932975	0.43344273
P88	0.23338459	0.28010815	0.62766465
P89	0.97394278	-0.0286778	0.31949357
P90	0.58576476	0.23194338	0.39089843
P91	0.87752967	0.17408887	-0.195842
P92	0.44429713	0.09238008	0.50926343
P93	0.41211681	0.46026854	0.55007164
P94	0.94451887	0.79812661	0.15987708
P95	0.03079654	0.47120174	0.49705828
P96	-0.074881	0.39567796	0.4897004
p97	0.1940787	0.30688379	0.70189864
P98	0.80402795	0.04433771	0.22362365
P99	0.65940359	0.47435356	0.29993363
P100	0.613476	0.30791999	0.51762235
P101	0.01177794	0.26009616	0.46256072
P102	0.58864407	0.09133614	0.23679119
P103	0.58570837	0.39366781	-0.4745371
P104	0.76157112	0.66643965	0.69709732
P105	0.2623268	0.40911128	-0.1772619
P106	0.58597091	0.09226001	0.49874276
p107	0.53988616	0.45783495	0.13654023
p108	0.2787944	0.3417742	0.37613555
p109	0.52887898	0.12682822	0.09116613
P110		0.54891662	

C2: A screenshot of the analysis tool of the IAT measuring implicit attitude (http://iatgen.org/)

The tool is developed by Carpenter et al. (2019) and the following screenshot is sowing the output from the analysis of the iatgen with a given example provided by the tool developers.



C3: Mixed effect model Analysis

Mixed effect model summary of country of origin on intelligibility per speaker with random intercept by subjects and speakers

Fixed effect	estimate	SE	df	t. value	P. value
intercept	0.546	0.04	5.86	12.652	.000
IN/P speakers	0.04	0.02	547	2.45	0.014
SA speakers	0.16	0.02	547	8.03	.000

SA speakers_IN/P speakers	0.11	0.2	547	5.58	.000

Mixed effect model summary of country of origin on perceived comprehensibility per speaker with random intercept by subjects and speakers

Fixed effect	estimate	SE	df	t. value	P. value
intercept	4.73	0.16	13.63	29.30	.000
IN/P speakers	1.40	0.19	547	7.26	.000
SA speakers	3.26	0.19	547	16.93	.000
SA speakers – IN/P speakers	1.86	0.19	547	9.67	.000

C4: Correlation of students' implicit attitudes and students' ratings of EMI instructors of AC= intelligibility, PC= perceived comprehensibility, and PFA= perceived foreign accentedness.

IATs/ constructs		INT			PC			PFA		
		IN/P	EG	SA	IN/P	EG	SA	IN/P	EG	SA
SA_IN/P	Correlation Coefficient	-.145		-.122	-.105		**-.243**	-.048		.076
	Significance(2-tailed)	.133		.210	.280		**.011**	.619		.434
	N	108		108	108		108	108		108
EG_IN/P	Correlation Coefficient	.075	.023		**.213**	-.002		-.060	-.100	
	Significance(2-tailed)	.436	.814		**.026**	.979		.536	.299	
	N	109	109		109	109		109	109	
SA_EG	Correlation Coefficient		-.161	-.129		.078	-.176		-.086	-.058
	Significance(2-tailed)		.094	.180		.421	.067		.376	.549
	N		109	109		109	109		109	109

C5: Regression models summary of English proficiency level, major, academic year, and media exposure on perceived foreign accentedness.

Variables	EG instructor			SA instructor			IN/P instructor		
	Beta	**t**	**Sig.**	**Beta**	**t**	**Sig.**	**Beta**	**t**	**Sig.**
English Proficiency Level									
Beginners vs. advanced	.022	.191	.849	.044	.374	.709	-.203	-1.770	.080
Intermediate vs. advanced	.041	.369	.713	-.015	-.133	.895	-.024	-.213	.832
Major									
Medical vs. Computer	.062	.419	.676	.081	.533	.595	.215	1.444	.152
Applied vs. Computer	.061	.393	.695	.018	.110	.913	.231	1.466	.146
Academic Year									
Second vs. Fifth Year	-.160	-1.179	.241	-.007	-.047	.962	-.145	-1.060	.292
Third vs. Fifth Year	-.114	-.778	.438	.028	.184	.854	-.104	-.707	.481
Fourth vs. Fifth Year	-.110	-.811	.419	.046	.327	.744	-.155	-1.135	.259
Media exposure									
A-media high vs. low	.015	.151	.880	-.060	-.605	.547	.068	.704	.483
E-media high vs. low	-.298	-3.028	**.003**	.159	1.558	.122	-.146	-1.461	.147
R square	= 8108			= 8046			= 8090		
F-ratio	= 1.344 *p* (.224) > .05			= 8526 *p* (.853) > .05			= 1.094 *p* (.374) > .05		