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Cultural intelligence in pharmacy education: A complex mixed methods study

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Abstract

In providing health services, it is important not just to follow good care pathways but also to recognise the diversity in the population and adapt the way we care for patients to reflect this. If health professionals do not recognise the cultural needs of patients this is likely to result in poorer health outcomes for those patients. Whilst education is seen as the method of enhancing intercultural competence of future pharmacists, the diversity of the academic environment in which students learn can affect their development of intercultural competence. Ensuring students appreciate the impact of interculturally competent practice and providing them with the knowledge, skills and attitudes needed to be interculturally competent health professionals can result in better patient care.

The literature suggests that pharmacists in the United Kingdom (UK) are not always competent in providing services to a diverse patient population. Few studies in the literature have considered the role of cultural education in pharmacy schools in the UK. This thesis aims to understand the cultural intelligence of pharmacy students and test an educational intervention at the University of Nottingham (UoN).

The thesis employed a mixed methods approach through conducting a series of studies. Firstly, a questionnaire was distributed to all final year pharmacy students at the UoN (UK campus). Ninety-eight out of 241 (40%) students completed the questionnaire for the academic year 2017/18. Results suggest a lack of cultural knowledge and the need for cultural training. This was followed by semi-structured interviews with 35 final year pharmacy students, which found that students from different cultures had different attitudes towards their peers and raised student-chosen racial segregation as a barrier to effective intercultural contact. Finally, a novel educational intervention was designed and tested with 14 final year pharmacy students for the academic year 2018/19. The intervention focused on two areas, interaction with peers, and with patients. Results provide convincing evidence that suggest the need

for wider testing of the effectiveness and duration of effect of the educational intervention.

Despite the opportunities provided during their time at the UoN, students identified some challenges for educational providers in that their intercultural interactions and capability were affected by prior experiences, speaking more than one language, and sharing accommodation with people from different cultural backgrounds. This research was only implemented with one cohort of students in the School of Pharmacy at the University of Nottingham and so needs to be tested in other schools and institutions to provide a knowledge base that can direct future research and policies. Work also needs to be done at the organisational level to develop policies and practices that lead to positive outcomes in the community.

The findings provide educators, researchers, students, and pharmacists with insights about factors that may facilitate or hinder the development of cultural intelligence among pharmacy students. These insights can be used to improve the academic environment and also training for pharmacists providing pharmaceutical services.

List of publications and contributions

Alosaimi, N., Boyd, M., & Boardman, H. (2019). Cultural intelligence of MPharm undergraduates. *International Journal of Pharmacy Practice*, 27(S2), 27-28. doi:10.1111/ijpp.12533

The Health Services Research and Pharmacy Practice Conference (HSRPP) (2019). Pecha Kucha presentation. Cultural intelligence of MPharm undergraduates. Birmingham.

Poster presentation at the Post-Graduate Research (PGR) Allied Health Conference (2019). Cultural intelligence amongst final year pharmacy students: A qualitative study. The University of Nottingham.

First runner up prize for 3-Minute Thesis (3MT) competition (2019). The University of Nottingham.

Beneroso, D., Alosaimi N. (2020). Cultural intelligence of final-year chemical engineering students: Towards a personalised cross-cultural support. *Education for Chemical Engineers,* 32 32-39.

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List of abbreviations and glossary of terms

AES	Advanced Encryption Standard
APPE	Advanced Pharmacy Practice Experience
BAME	Black, Asian and Minority Ethnic
BNF	British National Formulary
CAQDAS	Computer Aided/assisted Qualitative Data Analysis Software
CC	Cultural Competence
CMO	Context-Mechanism-Outcome
COREQ	Consolidated Criteria for Reporting Qualitative Research
CQ	Cultural Intelligence
CQS	Cultural Intelligence Scale
CR	Critical Realism
ERIC	Educational Resources Information Centre
F2F	Face-to-Face
GPhC	General Pharmaceutical Council
HCPs	Health Care Professionals
HE	Higher Education
IQR	Interquartile Range
JSE-HPS	Jefferson Scale of Empathy-Health Professions Scale
IAT	Implicit Association Test

ICC	Intercultural Competence
ICD	International Statistical Classification of Diseases and Related Health Problems
IELTS	International English Language Testing System
IM	Impression Management
KAS	Knowledge, Attitude, and Skills
MB	Matthew Boyd
MBA	Masters of Business Administration
MCQs	Multiple Choice Questions
MI	Myocardial Infarction
MPharm	Master of Sciences of Pharmacy
NA	Not Applicable
OSCE	Objective Structured Clinical Examination
PCC	Patient Centred Care
PEM	Patient Empathy Modelling
PICO	Patient/problem, Intervention, Comparison/Control, and Outcome
PIL	Patient Information leaflet
PLM	Pharmacy Leadership and Management (Module)
PRISMA	Preferred Reporting Items for Systematic Reviews and Meta-Analysis
RCTs	Randomised Controlled Trials

SDE	Self-Deceptive Enhancement
SJT	Situational Judgment Test
UK	United Kingdom
UoN	University of Nottingham
US	United States
WHO	World Health Organisation

Glossary of terms

Culture is referred to as a set of practices and values that are guided by personal beliefs that are learned and transmitted in groups of people. It influences the behaviour of an individual and their interpretations of other people's behaviours.

Intercultural competence is used to refer to a broad concept. It refers to the capacity of an individual to behave appropriately and effectively in situations that are characterised by cultural differences (Deardorff, 2009).

Cultural intelligence is the model used as a proxy for intercultural capabilities. It refers to the individual's ability to work and interact effectively in intercultural situations (Ang & Van Dyne, 2008).

Ethnocentrism is a concept that refers to the view of superiority of an individual's culture.

Cultural training: teaching strategies that value diversity between students. Cultural training is defined as "a distinct set of programs aimed at facilitating positive inter-group interactions, reducing prejudice and discrimination and enhancing the skills, knowledge and motivation of people to interact with diverse others" (Bezrukova, Jehn, & Spell, 2012, p. 208).

Native language when mentioned in this thesis refers to English as it is the dominant language in my setting.

Chapter 1. Introduction

1.1 Background and rationale

In the twenty-first century, societies around the world have become culturally diverse and the UK population in particular is considered 'super diverse' (Hussain, Sheikh, Timmons, Stickley, & Repper, 2020). Cultural diversity in higher education (HE) is globally recognised as being accompanied by certain challenges related to poor understanding, difficulties in intercultural adjustment, a negative attitude, and an inability to recognise people's needs due to a lack of familiarity with different cultures (Beagan, 2003; Buchanan, Ljungdahl, & Maher, 2015; Davey, Grant, & Anoopkumar-Dukie, 2013; Harkess & Kaddoura, 2016; Iskhakova, 2018; Kruse, Rakha, & Calderone, 2018). At the same time cultural diversity is seen as a norm and as a stimulant for skills development amongst students through them having effective and meaningful interactions (Bezrukova *et al.*, 2012).

Although most people interact with individuals from various cultural backgrounds on a daily basis, unfamiliarity is believed to be linked to a lack of meaningful intercultural contact (Allport, Clark, & Pettigrew, 1954; Deardorff, 2009). Intercultural contact refers to interaction and communication between people from different cultural backgrounds (Sousa, Gonçalves, & Santos, 2019). Effective interaction in situations characterised by cultural differences is related to intercultural competence (ICC). ICC is a broad concept that consists of personality characteristics, worldviews, and intercultural capabilities (Chen, 2014; Deardorff, 2009; Leung, Ang, & Tan, 2014). In this thesis, cultural intelligence (CQ) is the concept used as a proxy for intercultural capabilities (Ang & Van Dyne, 2008).

Studying in multi-cultural universities allows students the opportunity to develop their ICC (Deardorff, 2009). However, studies that have explored students' experiences have reported negative results amongst students from Black, Asian and minority ethnic (BAME) groups (Equality and Human Rights Commission, 2019; Kwon, Hernandez, & Moga, 2019). Institutional change to

improve the academic environment needs evidence-based knowledge to guide universities in developing and directing their strategic plans. It seems that students need structured activities to create a learning environment that enhances intercultural contact in an attempt to improve CQ.

A systematic review shows that cultural training improves intercultural competence of health care professionals and enhances patient satisfaction (Govere & Govere, 2016). Cultural training in pharmacy education is required to embrace multicultural education, respond to professional standards and facilitate graduates' preparedness to provide patient-centred care. Pharmacy graduates will play an important role in patients' health through serving a culturally diverse population and tackling current issues in society. Evidence shows that pharmacists counsel patients on cultural needs only in response to queries (Almansour, Chaar, & Saini, 2017). However, cultural education or training is not a passive process to gain knowledge to improve health inequalities. In this study's setting, students can develop their attitude, motivation and behaviours in an individualistic way through their interactions with their peers who are from a culturally-diverse student population. Standards on educational requirements for cultural training in the United Kingdom (UK) are not explicitly described in terms of what should be delivered and how students should be assessed. Pharmacy education and the profession are regulated by the General Pharmaceutical Council (GPhC), which is responsible for accrediting MPharm programme courses.

The GPhC standards for the initial education and training of pharmacists (General Pharmaceutical Council, 2021, standard 2) require that equality and diversity assessments should be included in this training. However, it is not clear if these standards are applicable in educating and training students about diversity and intercultural competence to become interculturally competent pharmacists. Since GPhC does not explicitly explain how curricula should include education on cultural diversity, educational activities on cultural diversity are expected to differ in UK MPharm programmes. Thus, this thesis is designed to understand the current needs at the UoN through reviewing

cultural education in the literature, surveying and interviewing final year pharmacy students to design and test a specific educational intervention.

Cultural diversity can negatively affect health outcomes and proposed solutions are summarised in Table 1 based on the affected factors. Health inequalities or disparities amongst BAME groups were believed to be linked to discriminatory behaviours, negative attitudes, or lack of knowledge and/or confidence (Wenger, Rosenthal, Sharpe, & Waite, 2016).

Table 1. Issues related to cultural diversity and proposed solutions

Barrier/Factor	Affected outcomes/factors	Suggested solution	Evidence
Language	Understanding Communication Adherence	Interpretation services Materials in different languages Learning foreign language(s)	VanTyle, Kennedy, Vance, and Hancock (2011)
Ethnicity	Trust Common values Acknowledgment of preferences/norms Seeking help	Ethnic matching Workforce diversity	Hussain *et al.* (2020)
Various needs **Diet** **Preferences** **Religious practices**	Meeting needs Confidence	Education/training	Hussain *et al.* (2020)
Attitude of HCPs	Behaviours Discrimination Unconscious bias Stereotyping/overgeneralisation	Education/training	George, Thornicrof, and Dogra (2015)
Clinical uncertainty **Lack of confidence**	Avoidance behaviour Communication style	Education/training	Hussin (2013)
Access to health care services	Follow-up Seeking help	Reminders	Forsetlund, Eike, and Vist (2010)

Barrier/Factor	Affected outcomes/factors	Suggested solution	Evidence
Health literacy	Understanding Adherence	Patient counselling/support	Schaafsma, Raynor, and Van den Berg (2003)

The traditional view of health inequalities is concerned with linking poor health outcomes with disadvantaged groups. This can be seen clearly in Marmot's stance after the Marmot review (Marmot, 2020; Marmot & Bell, 2012). Marmot believes that health inequalities should be addressed in the interest of fairness and social justice. It should be noted that health inequalities or disparities are multifactorial and multi-dimensional (Table 1). Understanding mechanisms behind health inequalities need qualitative data in addition to the quantitative data - which may suggest a causal relationship - to explore the depth and contexts of the topic.

Not all factors are related to health care professionals, patients may also have certain preferences when receiving health care services. Some patients in London prefer to be served by pharmacists who share the same ethnicity or language, and they are willing to wait for hours for their preference to be available (Duckett, 2013). A group of community pharmacists in the UK were found to lack cultural awareness in providing care to patients from diverse backgrounds (Ihsan, 2009). Previous evidence shows that action is required regarding cultural diversity to address health inequalities, enhance the preparedness of future pharmacists, and recognise and meet various patient needs. Education is proposed as a strategy to prepare interculturally competent professionals who are able to tackle current issues of health inequalities and effectively respond to all people's needs in an interculturally competent and person-centred way (Shaya & Gbarayor, 2006).

Little is known about the cultural training of pharmacy students in the UK. Therefore research is needed to understand how pharmacy schools prepare students for entering into their professional practice. This study not only examines the level of cultural intelligence but also considers the factors that

affect the development of CQ in one pharmacy school in the UK. The study investigated students' CQ and how their prior experiences of intercultural contact, demographic characteristics, and current experiences of studying shape their intercultural capabilities. Four factors of CQ, namely, cognitive CQ, metacognitive CQ, motivational CQ and behavioural CQ were considered (Earley & Ang, 2003).

All in all, cultural diversity is simultaneously an opportunity and a challenge for various population levels in society, such as higher education, patients and professional practice communities (Figure 1). Outcomes of cultural diversity, and the potential reasons for them, can overlap between different populations. The development of CQ seems to be individualistic as individuals have different life experiences, which may affect their mindset and expectations when they start HE. This can be referred to as cultural capital (Ng, Tan, & Ang, 2011). The focus of this thesis is on creating a specific curricular change at one school of pharmacy to promote cultural intelligence. The cultural training should aim to adhere to professional standards, overcome current barriers to provide intercultural competent care, and meet patients' needs.

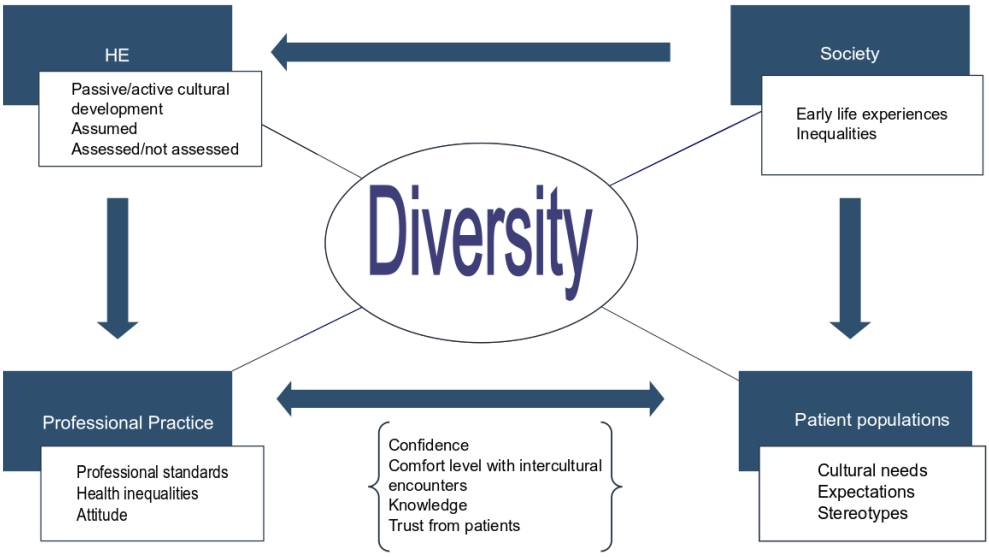

Figure 1. Impact of cultural diversity on different layers

1.2 Aims and objectives

This thesis is concerned with the intercultural capabilities of final year pharmacy students at the University of Nottingham. The aims and objectives are listed below:

The aims:

1. To measure final year pharmacy students' cultural intelligence
2. To explore reasons for the measured CQ
3. To explore students' views about cultural training
4. To explore students' views on educational intervention
5. To pilot and evaluate an educational intervention to increase CQ

The objectives:

I. Questionnaire
    a. To determine the CQ of fourth year pharmacy students using the Cultural Intelligence Scale (CQS)
    b. To determine the associations between CQ and demographic variables
    c. To determine the associations between CQ and worldviews
    d. To determine the need for cultural training

II. Interviews
    a. To explore the experience of pharmacy students regarding intercultural contact
    b. To explore the facilitators of CQ in pharmacy students
    c. To explore the barriers for CQ in pharmacy students
    d. To explore the reasons for the need for cultural training

III. Educational intervention
    a. To design an educational intervention informed by the results of questionnaires and interview studies
    b. To pilot and evaluate the intervention with fourth year pharmacy students

c. To revise the intervention based on the feedback of the pilot study

1.3 Organisation of the thesis

The thesis is presented in seven chapters to address five aims (Figure 2). Chapter 2 provides an overview and the context of intercultural research. It provides the theoretical background of the thesis through discussion of the models used in the literature and evaluation of the model used in this thesis (i.e. cultural intelligence).

It also describes the application of intercultural competence in higher education and particularly in pharmacy education and the practice of its assessment within students. The teaching methods used are explored with a discussion of their effectiveness.

Chapter 3 explains the methodology used and the philosophical assumptions underpinning the research in this thesis. Justification of the methods used to address the aims and objectives is provided. Questionnaire and interview studies were conducted to understand the concept of CQ from final year pharmacy students' perspective. The obtained results from those two studies, in addition to the literature, informed the design of an educational intervention that is described in Chapter 6. Chapter 3 also covers sampling, data analysis and ethical considerations.

Chapters 4 and 5 present the results obtained from the designed questionnaire and semi-structured interviews with a brief discussion of findings and summary of each chapter.

Chapter 6 includes a discussion of the design of an educational intervention. The piloting of the intervention with 14 pharmacy students in their fourth year is discussed and results of the evaluation are presented.

Chapter 7 provides a general discussion of the results from the previous three studies, implications for practice and research and a conclusion.

The thesis aims to create a curricular change based on understanding the context and mechanisms of intercultural contact amongst pharmacy students at the UoN

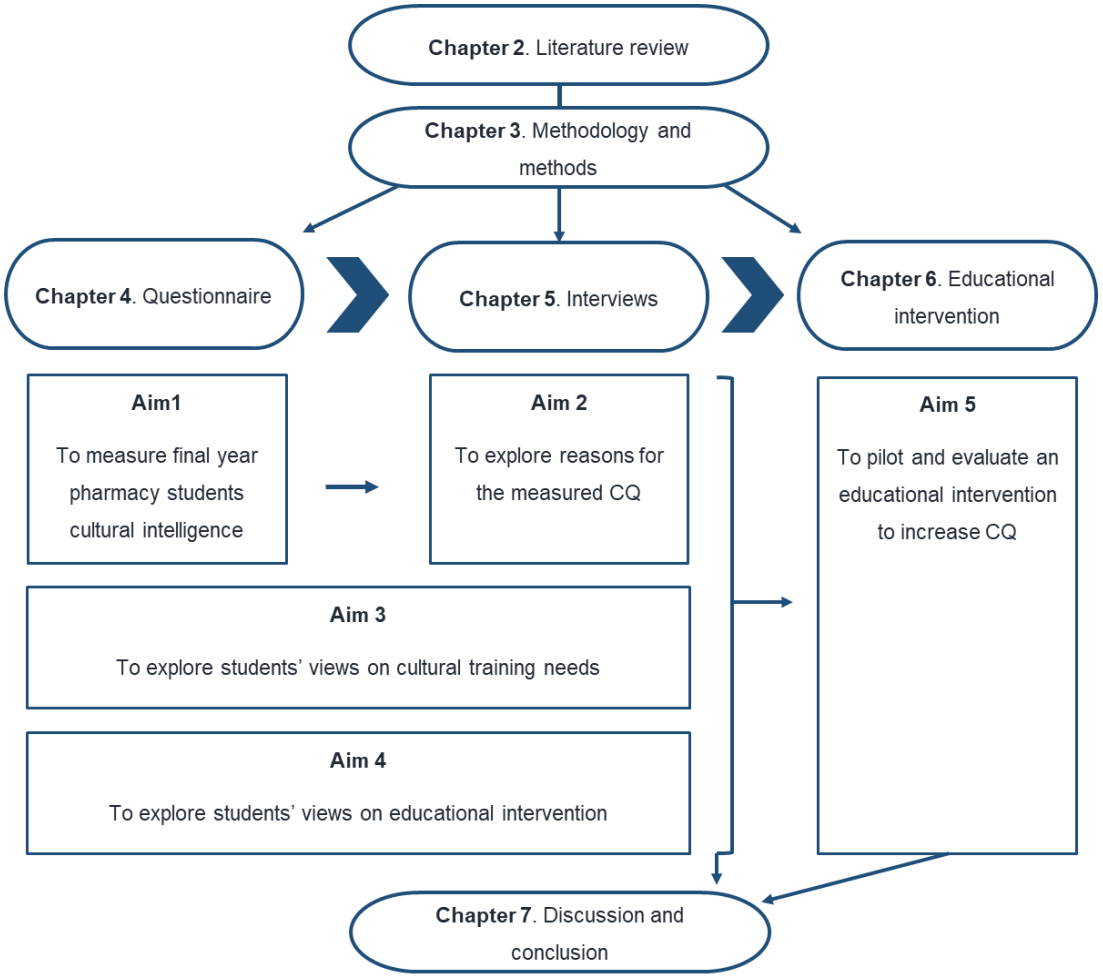

Figure 2. Thesis organisation

Chapter 2. Literature review

This chapter aims to provide the theoretical background and basis of this PhD thesis regarding cultural education in pharmacy. As this research is the first study that looked at CQ in pharmacy education, an overview of CQ interventions in education is presented in addition to a review of cultural training in pharmacy with an overview of different conceptualisations of ICC. The flow of the literature review is shown in Figure 3. The theoretical framework that was developed as a result of reviewing the literature is presented. The chapter closes with a brief summary.

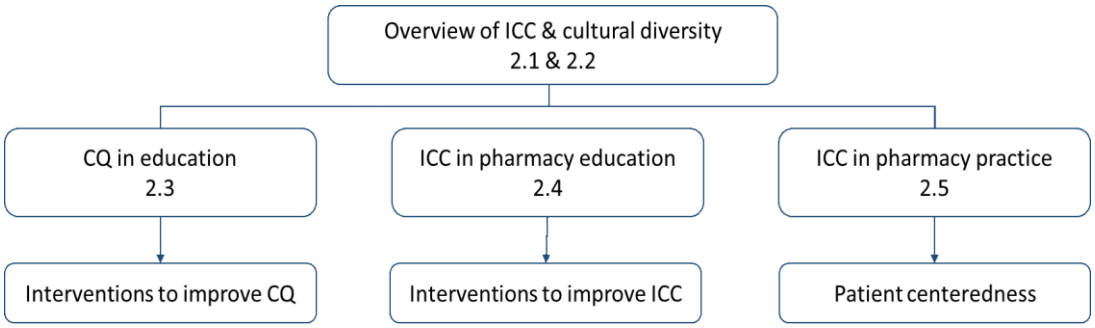

Figure 3. Literature review map of cultural training in pharmacy education

2.1 Models of intercultural competence (ICC)

The literature review in this chapter is a narrative review that differs from systematic review in scope and methodology. Systematic review tries to answer a specific question through using the PICO tool. The PICO tool is used for asking a specific question where P stands for patient, population, or problem, I stands for Intervention, C stands for comparison or control, and O stands for outcomes. A predetermined set of criteria of searching evidence, summarising them and drawing conclusions is usually used and findings are always reported using the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA). A narrative review is broad in scope and is arguably critiqued for being “not systematic” and for “cherry picking” of

evidence to direct conclusions. Nevertheless, these arguments are not always valid as a narrative review can be conducted in good or bad manner, and it is useful for drawing conclusion for plausible truth rather than Bayesian truth – for systematic review and meta-analysis. To clarify, Bayesian truth is related to producing generalizable facts to direct future prediction which usually support the evidence with numbers, while plausible truth is concerned with an authoritative argument. Systematic review is erroneously assumed to be superior to narrative review, but they are used to serve different purposes (Greenhalgh, Thorne, & Malterud, 2018). A systematic review contributes to the literature as it summarises data through addressing a specific question. However, a narrative review contributes to the literature as it deepens the understanding through providing interpretation and critique. Thus, the narrative review - in this thesis - provides an interpretative synthesis of the literature on cultural training which led to the development of the theoretical framework.

Cultural intelligence is a new term in pharmacy literature and cultural or intercultural competence are the common terms used. Thus, I start with an overview of the ICC concept through discussions of several models of ICC to provide a broad picture of the topic before discussing the case of CQ in pharmacy. A brief discussion of debates on defining culture is needed to present the complexity of its theorising. Nevertheless, theorising culture is beyond the scope of this thesis.

Culture as a complex concept has visible and invisible aspects which are continuously changing to influence behaviours (Aneas & Sandín, 2009; Dein, 2006; Vandenberg, 2010). Research needs variables as a proxy for culture, however the use of these variables is not always straightforward. The most commonly used variables are ethnicity and nationality. Traditionally, cultural boundaries tend to categorise people into two groups such as, ‘white and black’, ‘us and them’, ‘local and international or immigrants’, and ‘majority and minority’. This approach to drawing cultural boundaries is problematic because it assumes homogeneity of each group which is a characteristic of an essentialist approach. Debates continue on defining ethnicity and categorising

ethnic groups. 'For example, physical markers, such as skin colour being white or black, are widely used. Other criteria used are family origin or race. The use of family origin is problematic because it varies across generations and places. For example, a British individual who is third generation and has Asian ethnicity may not assign themselves to the Asian community as they have a British accent and their upbringing has been in the UK (Hussain *et al.*, 2020).

Cultural boundaries are not objective, instead they are subjective and socially constructed. Thus, most critiques of drawing cultural boundaries fall into essentialism and reductionism. These tend to reduce cultural groups to fixed groups and assume all members share similar attributes and beliefs, which can result in stereotyping and over-generalisation. Dein (2006) argues that using an accurate method of drawing cultural boundaries is impossible, but nevertheless understanding the significance of cultural factors on experiences is needed. In the UK, the major cultural groups are white, black and Asian whereas in the US, the majority are white, black and Hispanic. It is clear that different markers (skin colour and ethnicity) are used in these widely used categorisations. In addition, the UK census includes the following groups as ethnicity: white, mixed ethnic groups, Asian/Asian British, Black/Black British, and other ethnic groups. The Asian category includes Indian, Pakistani, Bangladeshi, Chinese, and other. Asian is understood differently in many places. For example, in the UK, Asian refers mostly to Indians, Pakistanis, and Bangladeshis while the US uses Asian to refer to Japanese and Chinese. The Asian category does not include every country in Asia, for example a person from Saudi Arabia – which is located in western Asia – is considered Arab not Asian. Clearly, official documents use different measures for defining ethnic groups such as skin colour, ethnicity, belonging to a certain continent, and nationality. In addition to the difficulty in defining ethnic groups by leaders, people can fit in more than one cultural or ethnic group.

Moreover, categorisation of cultural groups tends to vary across time in the same country as they are not immutable. The World Health Organisation (WHO) considered homosexuality as a mental disorder to be cured in the International Statistical Classification of Diseases and Related Health

Problems (ICD)-6 in 1948 (Cochran *et al.*, 2014). Homosexuality was then removed from ICD-10 as being a mental disorder in the 1990s and people with lesbian, gay, bisexual, and transgender (LGBT) identities are protected by law in western countries (Americano & Bhugra, 2014). This example shows how views regarding certain cultural behaviours change from being seen as an issue to be fixed to a choice to be respected. It also shows that cultural groups and diversity are not objectively defined, instead they are socially constructed and vary in different contexts, time and geography.

There are various terms for ICC that have been used interchangeably in the literature. These terms include cross-cultural adaptation, intercultural sensitivity, cultural intelligence, international communication, transcultural communication, global competence, cultural humiliation, cultural safety, cross-cultural awareness, and global citizenship (Alsharif, 2012; Chang, Simon, & Dong, 2012; Deardorff, 2009; Sagar, 2014; Williams, 1999). Cultural competence and cross-cultural competence are the most commonly used terms in pharmacy literature.

It could be helpful to consider first what intercultural incompetence is and why we assume it to be problematic. Is it only problematic for disadvantaged people (i.e. marginalised people who can be from minor ethnicities, lower social class, less knowledge e.g. illiterate?). If the disadvantaged person is a patient, there is most likely to be an impact on the treatment outcome due to lack of clarity of knowledge, negative attitudes, and issues in building trust. However, this view assumes the failure to acknowledge similar issues when the disadvantaged person is the pharmacist.

Many studies have not made a clear distinction between terms (Alsharif, 2012; Alsharif *et al.*, 2019; Deardorff, 2009). However, Kim (2015) believes that cultural competence implies that one is competent in one culture whereas intercultural competence is a broader concept that includes competence in working with different cultures. “Intercultural mainly refers to communication, cross-cultural to psychology and comparative, and transcultural to psychiatry. So, the difference is historical more than anything else” (Van de Vijver, 2017). I will use the term “intercultural competence” to mean the ability to integrate

cultural knowledge, attitudes and skills to function and communicate effectively and appropriately in intercultural interactions (Deardorff, 2006). This definition is research-based and several scholars agreed on it to describe ICC.

Scholars have reviewed and categorised several ICC models in different ways. A synoptic review by Spitzberg and Changnon (2009) categorised models that have tried to explain intercultural competence into five categories. C*ompositional models* concentrate on the hypothetical components of competence, with no identification of any relationship between these components. An example of this is the definition of intercultural competence suggested by Howard-Hamilton, Richardson, and Shuford (1998), consisting of knowledge, attitude, and skills (KAS). Another model in this cluster is based on facework management theory (Ting-Toomey & Kurogi, 1998) where *face* means self-image. In their model, the authors emphasised behavioural, cognitive, and outcome factors rather than knowledge and attitude. They identified three main dimensions (mindfulness, knowledge, and interaction skills) that correlate together, such that any change in one dimension will affect the others. Models in this category generally provide a simplistic view of the ICC concept.

Co-orientation models include models that focus on mutual communication and shared meaning. They highlight areas of the interaction itself rather than the skills needed and the outcomes of successful interaction, such as perceptual accuracy, empathy and clarity. For example, Fantini (1995) considers some traits of intercultural competence (e.g. openness, flexibility, patience, humour) to be important in facilitating intercultural interaction in addition to the basic dimensions (knowledge, attitude, and skills). Another model in this category was developed from a foreign language teaching perspective (Byram, 1997, 2003; Byram, Nichols, & Stevens, 2001). This model emphasises negotiating identity as a key factor in developing intercultural competence. The authors make a distinction between intercultural and bicultural individuals. Both groups have experiences in two different cultures, but the difference is that the latter experience identity conflict, where

they have tensions between values and identity, while intercultural speakers' identities tend to be compatible with both cultures.

Developmental models emphasise time as a central part of their theory and include stages of progression over time. Some models in this area are based on culture shock U-curve theory, which describes the psychological changes that a person goes through when he/she goes abroad (Gullahorn & Gullahorn, 1963). This model looks at the interaction from the perspective of the person who is moving to a new culture. Models in this category define certain stages the individual moves through them over time, such as the movement between ethnocentrism to ethnorelativism (Bennett, 1986). The usefulness of these models is questionable due to the impact of globalisation and new media in the current century.

Adaptational models build on the developmental models in that they take the process that happens over time and explain it further as a way of adaptation or acculturation to an unfamiliar culture to make sense of the cultural differences. However, adaptation is a questionable factor in developing intercultural competence (Spitzberg & Changnon, 2009). For example, Kim (1988) considers adaptation as a key factor for communication in an unfamiliar environments, and she assumes that adaptation happens when a person moves to a new culture, but we need to understand how and why adaptation happens. Moreover, the perspective of people in the host culture is not addressed in these models.

Finally, *causal path models* explain the relationship between constructs in a way in which one factor enhances another to reach intercultural competence. Some identify motivation as a mediator of effective interaction (Deardorff, 2006; Hammer, Wiseman, Rasmussen, & Bruschke, 1998). Even though causal path models are apparently easy to use in research, they might build too many relations between components that are in the form of two-way arrows, thus affecting their usefulness for guiding explicit theory testing (Spitzberg & Changnon, 2009).

Another way of classifying ICC models can be seen in another review where ICC has been categorised into three areas based on the types dimensions: intercultural traits, intercultural attitudes and worldviews, and intercultural capabilities (Leung *et al.*, 2014). *Intercultural traits* entail fixed personal characteristics that are likely to direct behaviour, such as tolerance for ambiguity and openness. *Intercultural attitudes and worldviews* refers to taking many perspectives of perception and evaluation. The final category, *intercultural capabilities* means actions, behaviours or knowledge that make a person effective in an intercultural situation. The Cultural Intelligence (CQ) model is considered as belonging to this last category.

A German study has developed an onion model to describe ICC (Schnabel, Kelava, Van de Vijver, & Seifert, 2015). This model is strongly influenced by the aforementioned review by Leung *et al.* (2014). In the onion model, malleable abilities are placed at the heart of the model, whereas the outer layers include attitudes, knowledge, and personality traits. Schnabel *et al.* (2015) cast doubt on the idea that CQ is seen as malleable ability and place CQ in the outer layer of the onion model (i.e. not malleable).

The conceptualisation of intercultural competence based on studies from the 1980s and 1990s may not actually reflect the situation today. Some scholars call for a re-conceptualisation of intercultural competence for the 21st century. Sorrells (2014) proposes a way of re-conceptualisation based on working on four important areas: redefining culture, the role of history and power, local/global connection and multi-level analysis, and social justice. Conceptualisations of ICC differ in different cultural orientations or contexts (Dalib, Harun, & Yusof, 2016). For example, the western (i.e. American or European) perspective looks at the goal of achieving individual goals as the society in general is individualistic. In contrast, collectivistic societies such as Asian ones value the harmony of relationships more than achieving individual goals. Since the conceptualisation of ICC in the literature is still in the development stage, the aim of my study is not to re-conceptualise ICC, but rather to shed light on some factors affecting the clarity of the concept before exploring factors affecting its development in students.

2.1.1 Components of intercultural competence

Whilst many models of intercultural competence have been proposed, there is no universal agreement on what constitutes intercultural competence (the core elements). Moreover, the structure of the intercultural competence process is unclear; the relationship between elements, how it develops, and the prerequisites and consequences of ICC. Additionally, there is uncertainty in the evidence about how the components of ICC are manifested in actual intercultural settings or encounters (Van de Vijver & Leung, 2009)

Although the literature lacks universal agreement about the components of ICC, the proposed elements (more than 300) in various models can be summarised in three categories to comply with the classification used by Leung *et al.* (2014), as mentioned in the previous section (Figure 4). Moreover, I used the CQ to classify the components of intercultural capabilities into four factors. The cultural intelligence model is described in section 2.2. Even though the field of intercultural competence has evolved in recent decades, the correlation between the success in intercultural encounters and the level of ICC is not clear. This may indicate that understanding of the mechanism of intercultural interaction and various contextual factors is needed in the area of ICC assessment and training.

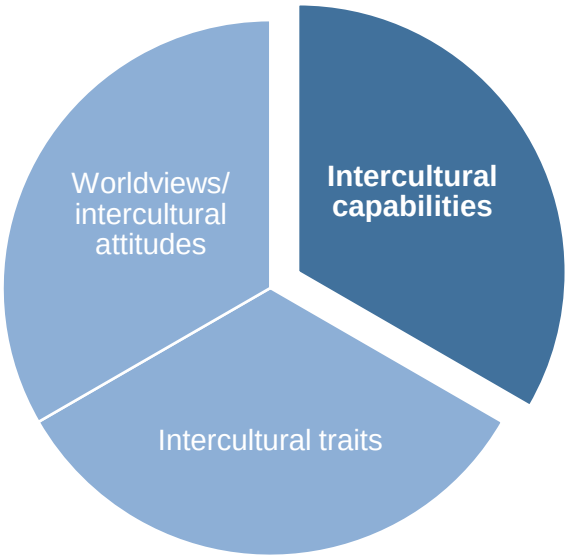

Figure 4. Components of intercultural competence (ICC)

In the literature, the system of categorising ICC components varies in terminology. Some prefer using knowledge, attitudes, and skills while others refer to cognitive, affective, and behaviours categories (Spitzberg & Changnon, 2009). Chen (2014) refers to them as cultural sensitivity (affective or attitude), cultural awareness (cognitive or knowledge), and cultural effectiveness or adroitness (behaviour). Discrepancies exist in the sub-dimensions of most of the ICC models. Knowledge is one dimension that all ICC models agree on from early research. However, the sources of that knowledge, if it is clearly identified, are prone to overgeneralisation and stereotyping. For example in one study the author tries to address the problem of fasting Ramadan for a Muslim patient who needs erythromycin and explains that taking erythromycin on an empty stomach may lead to nausea and vomiting (Zweber, 2002). However, the actual fasting for Muslims means that no drink or food is taken from dawn to sunset. This practice is not required in all circumstances; for example, if a patient is unwell and needs medication, they can break their fasting. In fact, taking erythromycin means that the patient would not be fasting and can take it after food. Thus, the author assumes that they can enhance the patient outcomes by acknowledging cultural issues, yet

fails to understand these issues. This raises a question about who is responsible for producing valid knowledge and on what basis.

2.1.2 Assessment of ICC

The assessment of ICC depends on the definition of the concept. Since there is no agreement on what ICC means, nor on what constitutes ICC, it is unsurprising to find more than 100 tools in the literature for the assessment of ICC (Griffith, Wolfeld, Armon, Rios, & Liu, 2016). Some of the tools are based on specific models; for example the Intercultural Development Inventory (IDI) is based on the Developmental Model of Intercultural Sensitivity (DMIS) (Bennett, 2009). Unfortunately, most tools used in assessing ICC have unevaluated assumptions. One such assumption is that culture is seen as describing people from different nations or race which reduces the concept of culture to race and ethnicity (Kumas-Tan, Beagan, Loppie, MacLeod, & Frank, 2007). Some tools assume that the norm is “western” or “white”, and they also assume that other cultures have the problem because they are different. If this assumption is true, this means that white has no culture which is not the case. There is no human without a culture: culture is like water for fish, as Rahmawati and Taylor (2018) describe it. Inability to see one’s culture does not mean that culture is only present in those who are different from us.

2.2 Cultural intelligence model

Working in culturally diverse situations is a common practice in both pharmacy education and professional practice. Effective working in these situations is the focus of many ICC models, however, the dynamics of working in intercultural encounters is rarely described thoroughly in those models. Thus, the concept of cultural intelligence was proposed to give a clear explanation of the process (Earley & Ang, 2003). The dynamic of the process can be understood by building the CQ model on the basis of the multiple intelligences theory (Sternberg & Detterman, 1986). It is believed that a person learns, recognises and evaluates their responses during intercultural interactions. I chose the cultural intelligence model as a capability model to determine ICC in my PhD thesis. The choice was made because the CQ model offers a way of assessing

intercultural capabilities that can be changed by education or training and does not include any personality characteristics.

There are some antecedents that can predict success in functioning in intercultural encounters. For example, openness, as one of the Big Five personality traits (which includes openness to experiences, conscientiousness, extraversion, agreeableness, and neuroticism), is considered to highly correlate with a high level of CQ (Ang & Van Dyne, 2008). Openness is also deemed an important dimension of some ICC models (Deardorff, 2006; Hunter, White, & Godbey, 2006; Kim, 2015). In the educational context, several factors have been found to be associated with higher levels of CQ. For example, studying abroad has been found to associate with a higher level of behavioural CQ (Brancu, Munteanu, & Golet, 2016). One study shows that students studying abroad have higher CQ after completion of their course (Barbuto, Beenen, & Tran, 2015). Speaking more than one language has been found to be a significant factor affecting all those factors of CQ (Ahn & Ettner, 2013). In contrast, some concepts were found to be associated with a low level of CQ, such as ethnocentrism (Barbuto *et al.*, 2015). Cultural training to enhance cultural intelligence is discussed in section 2.3.4.

In an attempt to find the correlation between success in intercultural encounters - in achieving goals without allowing cultural differences to hinder the interaction - and intercultural capabilities, the concept of cultural intelligence (CQ) was proposed by Earley and Ang (2003). Cultural intelligence refers to the individual's capability to effectively adapt and function in settings that are culturally diverse. The question behind the cultural intelligence model is, how do some people manage intercultural situations more effectively and easily than others? The authors argue that these individuals have the ability to understand the differences and the situation as if they were insiders. This can relate to emotional intelligence (Goleman, 1997), which enables people to understand the similarities and differences between one another. Having said that, Earley and Ang (2003) argue that being an emotionally intelligent person does not necessarily make the person culturally intelligent. The authors

identified four factors for the cultural intelligence (CQ) model: motivational CQ; cognitive CQ; metacognitive CQ; and behavioural CQ which all contribute to an individual's intercultural capabilities (Figure 5). The motivational factor refers to the desire to adapt to the new and unfamiliar cultural situation; this includes intrinsic motivation (the extent to which a person enjoys the culturally diverse encounter), extrinsic motivation (the benefit the person can gain from the experience), and self-efficacy (the person's belief that s/he can be effective in an intercultural situation). Cognitive CQ refers to the knowledge about practices and cultural norms, systems and values. Generally, this knowledge is acquired through education or personal experiences. Metacognitive CQ refers to the ability to comprehend cultural knowledge and the level of cultural awareness that is needed to help a person to apply it. It is linked to three functions in the thinking process, which are awareness, planning, and checking. Finally, behavioural CQ refers to verbal, non-verbal behaviours, and speech acts.

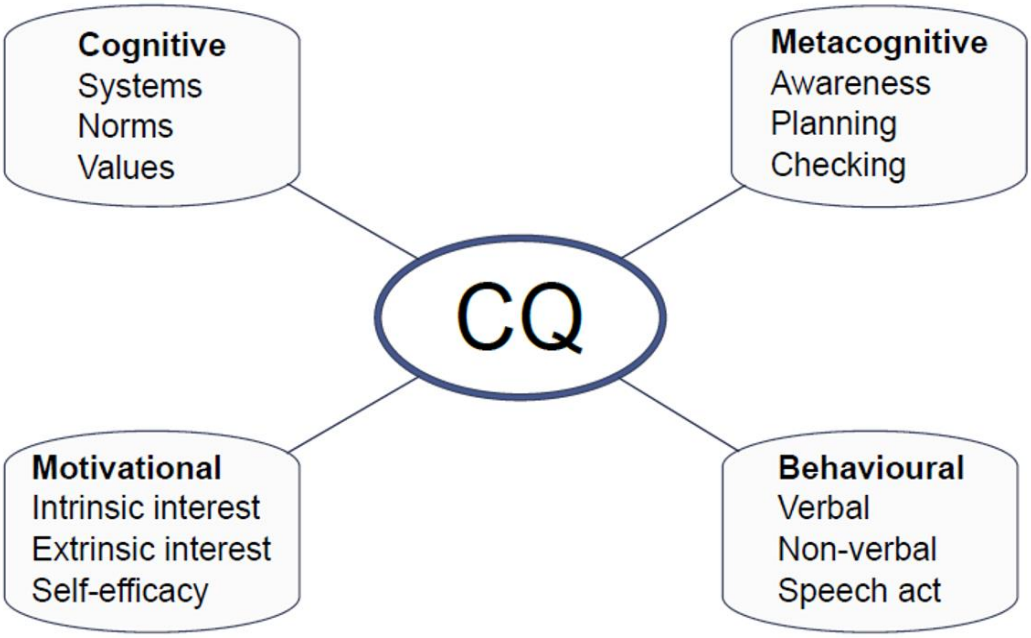

Figure 5. Factors of cultural intelligence

The literature describes some consequences related to high levels of CQ. Examples of these consequences include: effective performance (Ang & Van

Dyne, 2008), and cultural judgment and decision making (Ang *et al.*, 2007). Another study shows an improvement in the CQ levels of expatriates (Guðmundsdóttir, 2015) and this could be extrapolated to students who study in multicultural environments as they have similar characteristics to those in the previous studies. In both situations, dealing with diversity is a common factor that students or workers face.

2.2.1 Assessment of CQ

Most empirical studies have used self-report tools to measure CQ (Abdien & Jacob, 2018; Bücker & Korzilius, 2015; Crowne, 2008; Eisenberg *et al.*, 2013; Fischer, 2011; Gustomo, Putranto, Ghazali, & Nuraeni, 2018; MacNab, 2012; Nguyen, Jefferies, & Rojas, 2018; Wood & St. Peters, 2014). Ang *et al.* (2007) developed the cultural intelligence scale (CQS) based on the four factors of CQ mentioned earlier. In order to achieve generalisability of the tool, the CQS was validated across time, country and sample using undergraduates in the US and Singapore and international managers (Ang *et al.*, 2007). The validation of the CQS was not conducted with health profession students; however, the CQS was used later with health profession students (Hassani, 2015; Ko, Boswell, & Yoon, 2015; Koç & Turan, 2018). The CQS consists of 20 items using a 7-point Likert scale to rate responses ranging from 1 (very strongly disagree) to 7 (very strongly agree).

2.2.2 Strengths and weaknesses of using CQ as a measure of ICC

Unlike some other ICC models that combine in their components, personality traits, intercultural capabilities, or worldviews, the CQ model focuses only on intercultural capabilities that are malleable and can be shaped by education and training (Leung *et al.*, 2014). This makes the CQ model an appropriate choice for assessing and understanding ICC capabilities and for guiding the design of an intervention. This can help in evaluating and predicting effective interaction in the future (Ang & Van Dyne, 2008). The CQ model is culture-free and has been proven to show comparability across different cultures. The CQS has been shown to demonstrate high construct validity (Ang & Van Dyne, 2008), which refers to the extent to which the tool is measuring the abstract

concept (Bryman, 2012). An abstract concept is understood through its definition.

The selection of the CQ model to assess students' ability to work in culturally-diverse situations will need to take several perspectives to assess the complex construct as suggested by Deardorff (2006). Deardorff suggests that using multi-methods (i.e. qualitative and quantitative) could help in assessing the level of ICC (Deardorff, 2011). Thus, interviews were chosen to add depth to the findings of quantitative data.

2.3 Cultural training in higher education

The lack of clarity in the conceptualisation of ICC is reflected in the training provided in the field. There are debates over what to teach, how to teach and how to assess or evaluate the outcomes (Arasaratnam, 2014; Deardorff, 2009; Pinto, 2018). Educators from Portugal and the UK seem to agree that providing cultural training in medical education is challenging (Dogra & Wass, 2006; Pinto, 2018). The answers as to why it is difficult to offer cultural training in HE can be categorised into seven reasons: 1) complexity of ICC, 2) lack of clarity in ICC conceptualisation (what is meant by ICC), 3) discrepancies in assessment of ICC, 4) lack of clear guidance on what to teach, 5) lack of clear guidance on how to assess, 6) lack of evidence on effective methods of teaching ICC, 7) lack of formal training of educators.

Moreover, some UK medical educators raised concerns about whether students should be formally assessed on ICC for three reasons (Dogra & Wass, 2006): 1) social desirability bias: students are most likely to say what the assessors want to hear and behave in a way that results in passing the assessment, 2) failure in the ICC assessment would challenge educators to fail students professionally on the grounds of soft skills, 3) lack of a valid method to assess students' behaviour.

Although the concerns were discussed in the literature more than a decade ago, the same issues still seem to exist which may indicate slow progress in the area. Studies on cultural training in HE can be grouped into five groups: 1)

studies that explored the meaning of ICC from students' and educators' perspectives; 2) studies that looked at intercultural contact or immersion experiences as a trigger to develop ICC (study abroad, service learning, partnership); 3) studies that considered familiarity with cultural differences (prior experiences either through family, education or travel); 4) studies that considered providing educational interventions to develop ICC (cognitive-based and problem-based); 5) studies that looked at the development of ICC in teachers and diversifying the workforce. Discussion of studies in the first four groups is provided below. The studies in the final group were not reported because this thesis focused on the students' perspective and their development in terms of intercultural capabilities. The teachers' perspective was not explored in this study and therefore I did not report studies that considered this area.

2.3.1 ICC conceptualisation

Lack of conceptual clarity of ICC is evident in the literature as mentioned in section 2.1. In response to this, two European studies explored students' and educators' perspectives using Deardorff's model of ICC and content analysis as a method of analysis (Odağ, Wallin, & Kedzior, 2015; Pinto, 2018).

A German study explored the meaning of ICC from the students' perspective (Odağ *et al.*, 2015). The students who participated were in the first year of their studies, 25% were German and 75% were international students. They claimed that students acknowledge additional attributes for ICC. These attributes were tolerance, effective interaction, integration, intercultural harmony, offence prevention, and collaboration. However, these attributes could fit into the components of the model they used. Given that they collected their data through an open-ended question in a questionnaire, biases could not be ruled out.

A Portuguese study explored ten educators' views on ICC (Pinto, 2018). More emphasis was put on attitude and knowledge; attitude was seen as the foundation of ICC. It was suggested that students should acquire knowledge about historical, political and social contexts. Three reasons were identified for

the importance of developing ICC in HE: 1) changing the prejudiced attitudes to respect, openness and curiosity; 2) preparing students to live in a global world; 3) achieving professional empowerment. The method of collecting data was not adequately explained; it was claimed that the data was collected through four sessions of discussions and reflective observation, but only two sessions were mentioned in the data collection section. Both studies seem to confirm the model of Deardorff, with no new knowledge added to the field.

Studies in this category tend to analyse the topic at the individual level with less emphasis on the organizational level and quality of services (Odağ *et al.*, 2015; Pinto, 2018). George *et al.* (2015) claim that some cultural issues discussed in health care literature in the UK are practical issues that are the responsibilities of the institution rather than the health care professionals.

2.3.2 Intercultural contact in education

The extent of intercultural contact

Whether acknowledged or not, most reviewed studies consider intercultural contact or immersion experiences as a strategy for developing ICC. The intercultural contact was referred to using various terms, such as meaningful contact, immersion, interaction, intercultural exposure, international experience, or novel experience. The immersion or contact of itself is not usually a facilitator for developing ICC. However, Williams (2005) found prior intercultural contact to be a predictor for ICC development in a study abroad programme. Nevertheless, the author stressed that the experience of itself is not beneficial unless a student interacts with the foreign culture. Greatrex-White (2008) argues that for a positive change in attitude to be seen, an immersion experience in a context that is different to the educational setting is needed. However, this argument lacks evidence to support it.

The process of development of ICC is assumed to happen spontaneously and the mechanism is not usually supported with evidence. Most discussions in this area consider familiarity and critical thinking when encountering different values and assumptions (George *et al.*, 2015; Harrison, 2012). Chisholm (2004) claims that when students interact with students from diverse

backgrounds, they challenge their own assumptions and broaden their perspectives. However, this explanation tends to be general. Not all students will challenge their assumptions because of interacting with students from different cultural backgrounds. Students may have had the intercultural contact earlier in their life and the degree of familiarity is not acknowledged in this argument.

The contact or the immersion can be in a new environment where students fully immerse in a new culture - usually a new country- or in a classroom where students are exposed to new situations with cultural differences and needs and are stimulated to think about them to develop a new perspective in thinking. It could be said that the contact can be divided into fully-immersive contact and partially-immersive contact. The fully-immersive contact includes study abroad programmes, cultural trips and service learning. Partially-immersive contact includes simulation and case studies.

The length of intercultural contact

The length of intercultural contact and the place of immersion are the common factors discussed when study abroad experiences are described in earlier research (Bain & Yaklin, 2019). It seems that there is no clear cut-off point between short and long intercultural contact. The length of contact should not be the only factor for educators to consider. Short experiences could result in a positive impact if they are well-prepared and organized (Wood & St. Peters, 2014). Edmonds (2012) reviewed studies that reported study abroad programmes in nursing in the US and found that short intercultural contact (2-4 weeks) resulted in a positive impact on ICC compared to students who did not go abroad. The impact of time and other confounding variables cannot be ruled out and the mechanism of developing ICC in short interventions is not clearly explained.

Forms of intercultural contact

The structure of intercultural contact varies in the literature. Short interventions tend to be more structured than long interventions where students have more time to explore things themselves (George *et al.*, 2015; Wood & St. Peters,

2014). It is recommended that a balance between academic and cultural activities is maintained for positive experiences (Koernig, 2007).

Some programmes such as study abroad would recommend pre-meetings to minimise uncertainties and anxiety (Rosemin, Augusto, Yvonne, Birpaul, & John, 2013; Wood & St. Peters, 2014). Information given to students, in pre-meetings, includes what they should expect. Koernig (2007) recommends providing information about the new culture by a peer student. It is claimed that this strategy would result in successful bonding between students, and most students end up going for dinner later.

Intercultural contact can be divided into formal and informal contact based on the context of the interaction (Kimmel & Volet, 2012; Lin & Shen, 2019). Formal contact is the structured activities where students are expected to achieve certain academic aims through interaction and working with their peers. In contrast, informal contact happens through social meetings and conversation and is usually directed by students' motivation to communicate with their peers. Informal intercultural contact can enhance students' CQ and thus should be recognised in cultural training (Lin & Shen, 2019)

The place of intercultural contact (study abroad)

The place of intercultural contact where students are exposed to unfamiliar situations and are expected to develop a new perspective is important. Some studies looked at this from both developed and developing countries, however, there are no comparative studies in this regard (Deardorff, 2009; Edmonds, 2012). Some researchers reported findings of trips to overseas countries that speak the same language. For example, American students are offered trips to the UK and the expectation is to develop ICC (Pedersen, 2010). It could be said that the emphasis was on observing new behaviours and assumptions. It is assumed that students will think critically about situations when they see differences due to geographical aspect. Students may have broadened their horizons by these trips, but the question that is not answered is how their development of ICC is different from going to places that have different languages. Another study reported offering trips for students to places inside

America, but the language spoken and the dominant ethnicity are different than English and White (Nguyen *et al.*, 2018). Findings suggest that students develop their ICC when they experience challenges in communication. Some students were treated as being invisible due to their skin colour. Situations that show variation in communication stimulate students to think about other perspectives and general contextual factors.

The mechanism of intercultural contact

Although the exact mechanism of developing ICC from intercultural contact is not well-understood, some theories are proposed for explaining the learning experience (Bain & Yaklin, 2019). Some theories that are believed to help the understanding of developing ICC from intercultural contact are experiential learning theory (Kolb, 1984) and transformational learning theory (Mezirow, 1991). It is claimed that for ICC to be developed an experience is needed and learning happens through reflection, according to Kolb's learning cycle. Transformational learning is believed to occur when people experience uncomfortable situations which lead to them changing their perspectives.

These theories provide explanations when intercultural contact enhances ICC. Nevertheless, not all interventions described in the literature result in positive impact as reported in section 2.3.4. Contact theory acknowledges that contact does not always lead to positive outcomes and considers certain contexts or conditions for contact to be fruitful (Allport *et al.*, 1954). Studies that use this theory as a merely supporting theory assume that contact improves relationships between members of social groups that have some social tensions. Conditions for meaningful contact include that both cultural groups should have equal status, have shared goals and have an environment that does not favour any group. Intercultural contact is commonly considered as a complex social situation that needs deep understanding. Qualitative studies to understand the depth of the experiences are conducted in several studies (Beagan, 2003; Bridges, 2014; Kwon *et al.*, 2019; Nguyen *et al.*, 2018; Rose-Redwood & Rose-Redwood, 2013). The main themes can be grouped into two themes: 1) experiences of international students and 2) experiences of students in the host country. Five sub-themes were seen under the first theme:

1) identity (being a foreigner); 2) being invisible; 3) comparing home to the new environment; 4) psychological changes (traditionally described as culture shock, anxiety could be a stimulus to motivate people to learn or could be a suppressor which leads to self-isolation, withdrawal and passive avoidance); and 5) measures taken to increase familiarity: looking for similar people, speaking the native language, social support (sense of community), meeting familiar people. The second theme covered two sub-themes: 1) motivation to learn about others and 2) perception or expectations of intercultural contact.

2.3.3 Familiarity with cultural differences

Familiarity with cultural differences is commonly understood through prior experiences (Crowne, 2008; Eisenberg *et al.*, 2013; Harrison, 2012). These experiences could be explored in terms of family, country of birth, education, living abroad or travel. There is a tendency to overlook meaningful contact to develop familiarity. Familiarity is seen as naturally developed between similar people. Nevertheless, it can be developed when there are cultural differences and this has implications in health and pharmacy practice.

Familiarity is an important factor in developing ICC because it is linked to trust and similarities. It is claimed that people naturally tend to be familiar with similar people (Koernig, 2007). This idea was referred to by the term “homophily” when people connect with and trust similar people. It is argued that people trust individuals when they have shared commonalities. However, familiarity can be developed if people spend time together and build rapport which is believed to improve trust; the more time spent together, the stronger the rapport developed. Also, physical and psychological approachability is claimed to improve familiarity and trust. Approachability includes, for example, being friendly and accessible by email, phone, and so on. (Koernig, 2007) believes that if a professor improves their approachability, their international students would feel comfortable in approaching them for guidance and questions.

Lack of familiarity is associated with psychological changes. Research shows that students may develop “cultural fatigue” after spending time in the host

culture when there are cultural differences between their home culture and the host culture (Spiteri, 2017). Results of a study abroad programme from the UoN for nursing students showed that students would search for familiarity in finding people who speak their native language (i.e. English) to escape the feeling of being a foreigner (Greatrex-White, 2008).

A review of the UK literature revealed that health disparities and racial inequalities are usually reported as results of cultural differences or diversity in society (George *et al.*, 2015). The assumption that is not explicitly mentioned is that lack of familiarity with cultural differences contributes to issues such as health disparities. Chisholm (2004) particularly mentioned that the "root cause" of the lack of ICC in American pharmacists is a deficiency of diversity in pharmacy academic institutions. It is argued that this diversity will work as a role model for minorities. It was not clear how this claim is linked to services provided or the skills of pharmacists. The author advocates for professionalism rather than patient-centred care with a vague logic and theoretical foundation. Her claim was that diversity in education and pharmacy practice would result in understanding practices due to the knowledge about different cultures which would lead to effective communication, empathy and understanding. Familiarity was understood as having knowledge of different cultures.

Abrishami (2018) argues that when patients and providers share similar cultural backgrounds patients would be more satisfied and would adhere to treatment more closely. I argue that while there may be some theoretical validity to this argument, the evidence demonstrating the connection of cultural background to patient satisfaction and adherence is not convincing and scarce (Govere & Govere, 2016). In other words, if health care professionals (HCPs) were more culturally competent then it is less likely that patients would prefer HCPs to have a similar background to them. There appears to be a human tendency to speak to similar people which could be related to trust and assumed similarities. However, supporting ethnic matching as the only strategy to improve health outcomes is not promising and cultural training should be encouraged in early education. Some studies reported no increase in patient satisfaction after cultural training. Even though some studies

reported increased patient satisfaction after ICC training, patients who are more satisfied are Caucasians. It is not clear though if this finding is related to the fact that 90% of their HCPs were Caucasians. Two studies reviewed by Forsetlund *et al.* (2010) revealed that no satisfactory results were shown after ethnic matching between therapists and patients (La Roche, Koinis-Mitchell, & Gualdron, 2006; Thompson & Alexander, 2006). The reviewed studies were conducted on physicians and no study reported the impact of ethnic matching on the pharmacist-patient relationship.

Familiarity is an ironic term in ICC research. It is considered an issue and a prerequisite to develop ICC. It is deemed a barrier to seeing self-culture and developing self-awareness which is considered - by some researchers in pharmacy education - the first step of developing ICC (Halbur, 2008; O'Connell, Korner, Rickles, & Sias, 2007; Zweber, 2002). However, lack of familiarity is rarely discussed in the literature as being a barrier to self-awareness. It was noticed in a study abroad programme two decades ago when a nursing student stated “I feel as if I have been asleep my whole life. I didn’t realize who I was, what I believed, or where I was going” (St Clair & McKenry, 1999). It could be said that this finding is outdated, nevertheless it is not clear yet if globalisation and technology improved familiarity rather than enforced stereotyping. A recent American study reported that when unfamiliar students had an experience in Puerto Rico and the Virgin Islands, that have different ethnic and linguistic structure, they report self-awareness, feelings of rejection and empathy with minorities (Nguyen *et al.*, 2018). One white American student did not expect the rejection which was clear in his language of description *“F*ck. I look like a f*cking White gringo here. I hat[e] all that sh*t. … I felt depressed. I felt like the victim. … It’s hard to get pass that. But it reminded me of …‘Wow, this is what it this feels to be Black in the United States”*. Another student thinks that self-awareness made her empathise with minorities “*you feel much more aware of being White, being blonde, and … you can’t … just be. You can’t be invisible. … It’s much more present, and it … put[s] yourself in someone else’s shoes, and that’s how a lot of times, minorities must feel in the United States in … very, very White areas.”*

Moreover, seeing other cultures as exotic and having issues in intercultural communication is attributed to not being familiar with “other cultures” and cultural differences. Arasaratnam (2014) discussed - although in a different context - the term “optical socialisation” when a trained eye sees patterns that other people cannot see. Whether we need familiarity when we encounter cultural differences or not, we should not allow familiarity with our culture to prevent us from being self-aware of our own culture, and it is helpful to consider what exactly we mean by culture in research.

Familiarity is only discussed when people are not aware of cultural differences. This means that people who are familiar in their native culture would not notice their cultural features. This is commonly discussed as self-awareness (Halbur, 2008; O'Connell *et al.*, 2007; Zweber, 2002). The question to ask here is what are the cultural features to be considered? Are they the language, skin colour, and make-sense behaviours? Do we need to consider values and beliefs as each country has a variety of beliefs and values? This leads to two continuing debates about what is culture and whether the topic is politically or clinically driven (George *et al.*, 2015).

In pharmacy practice, familiarity has implications when, for example, patients from a community pharmacy in London prefer to be served by pharmacists who share their language or ethnicities (Duckett, 2013). Patients would go to community pharmacies where pharmacists share ethnicity or language or wait for hours to find similar people.

2.3.4 Educational interventions or strategies to develop ICC in HE

Evidence suggests a positive impact of educational interventions in improving ICC (Forsetlund *et al.*, 2010; Gallagher & Polanin, 2015). A meta-analysis of 25 interventions in nursing education suggested that interventions seem to result in an improvement of the ICC level of nursing students and nurses (Gallagher & Polanin, 2015). Based on the challenges the author faced in drawing conclusions from the reviewed interventions, the authors suggested that the programme’s procedures, potential problems and practices should be explicitly described to increase the methodological rigour. They argued that

ICC training will not succeed unless there is consistent and thorough research. Moreover, they argued that lack of agreement on definition and a model of ICC is an obstacle to developing, implementing, and evaluating the effectiveness of interventions. Although it is claimed that educational interventions could result in enhanced knowledge, skills, and attitudes toward patients from other cultures, it is still not clear whether this impact would enhance the services provided. Furthermore, interventions tend to follow the "culture expertise" model (Dogra, 2003). The inconsistency in studies and assessment methods is not only seen in nursing education, pharmacy education has the same challenge as described in section 2.4.

A Norwegian review of RCTs that included eight educational interventions suggested a positive impact on health outcomes from the interventions (Forsetlund *et al.*, 2010). However, the studies included were deemed to be of low quality and the interventions varied in length and context. Matching patients with HCPs of the same origin in an RCT of low quality revealed no significant impact on treatment (Forsetlund *et al.*, 2010). That being said, RCTs may not reflect patients' preferences for interactions. A qualitative study in a "hyper-diverse city", London, shows that patients will stay for hours in a community pharmacy until they are served by pharmacists who share similar ethnicity or language (Duckett, 2013). The preferences could be due to respect, attitudes, being understood and the ability to engage in discussions about their health.

A review of cultural training programmes suggested that training is somewhat "atheoretical" in terms of design and implementation (Bezrukova *et al.*, 2012). About half of the studies reviewed (n = 106 articles) were found to be descriptive and not based on a theoretical framework. Therefore, the approach, analyse, and act framework was proposed by (Griffith *et al.*, 2016). This framework is influenced by a model of the social thinking process that promotes effective interaction in complex social situations (Grossman, Thayer, Shuffler, Burke, & Salas, 2015).

Evaluation of the impact of cultural training on CQ showed positive results according to recent reviews (Ott & Michailova, 2018; Solomon & Steyn, 2017).

However, results from individual studies in the literature provide inconclusive conclusions on both CQ and ICC. A recent American study in pharmacy education revealed that receiving cultural training did not significantly improve the level of ICC in first year pharmacy students (Dang, Truong, & Wade, 2019). Findings from a New Zealand study showed that the level of cognitive CQ significantly decreased after cultural training (Fischer, 2011). In the same study, the level of motivational CQ was lower for the post-training group, but the difference was not statistically significant. The level of motivational CQ was also significantly lower than pre-training in another study (Eisenberg *et al.*, 2013). However, the change in the level of CQ may occur due to other contextual factors as those studies were not RCTs. Results from a control group in the latter study showed that the level decreased in post-assessment although students did not receive cultural training. The change in the level of ICC could be linked to limitations of self-report tools as discussed in Chapter 3.

Educational interventions focused on intercultural contact to develop CQ either through simulation (Bücker & Korzilius, 2015; Eisenberg *et al.*, 2013) or trips abroad (Gustomo *et al.*, 2018; Nguyen *et al.*, 2018; Wood & St. Peters, 2014). Descriptions of studies on CQ and their results are presented in Tables 1 & 2. Interventions to increase CQ are discussed in this section and a review of educational interventions in pharmacy education is presented in section 2.4, page 51. Reviewing seven interventions that varied in length between 2.5 days to 12 weeks, all studies reported an increase in some factors of CQ (Abdien & Jacob, 2018; Bücker, Furrer, & Lin, 2015; Eisenberg *et al.*, 2013; Fischer, 2011; MacNab, 2012; Nguyen *et al.*, 2018; Wood & St. Peters, 2014). However, the interventions are diverse and the characteristics of the students are heterogeneous.

Table 2. Results of experimental studies to enhance CQ

Study	**Variable/test**	**Metacognitive CQ**		**Cognitive CQ**		**Motivational CQ**		**Behavioural CQ**		**Overall CQ**	
		pre	***post***	***pre***	***post***	***pre***	***post***	***pre***	***post***	***pre***	***post***
Bücker and Korzilius (2015)	Mean	5.30	5.64**	4.46	4.63	5.74	5.89**	4.94	5.24**	5.07	5.30**
	SD	0.83	0.68	0.89	0.86	0.61	0.62	0.94	0.87	0.67	0.83
	t	3.69		1.78		3.168		2.95		3.69	
	p-value	<0.001		p>0.05		<0.01		<0.01		<0.001	
Eisenberg *et al.* (2013) Study-1	Mean	4.71	5.12**	4.18	4.55**	5.74	5.56*	4.83	4.93	4.83	5.01**
	SD	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
	t	6.52		6.53		-3.64		1.58		4.33	
	p value	<0.001		<0.001		<0.001		>0.05		0.001	
Eisenberg *et al.* (2013)- study - 2	Mean	5.20	5.54**	4.20	4.46**	5.58	5.77*	4.87	5.01	4.96	5.20
	SD	0.80	0.76	1.03	0.92	0.81	0.75	0.98	0.92	‡	‡
	t	4.39		3.01		2.92		1.58		4.55	
treatment group	*p*-value	<0.001		<0.01		<0.01		>0.05		<0.001	
Eisenberg *et al.* (2013) – study – 2	Mean	5.56	5.35*	4.95	4.86*	5.73	5.53*	5.07	5.13	5.30	5.16*
	SD	0.90	0.73	0.84	0.98	0.96	0.72	0.71	1	‡	‡
	t	-1.50		1.07		-1.16		-1.13		-1.56	
Control group	*p*-value	>0.05		>0.05		>0.05		>0.05		>0.05	
Fischer (2011)	Mean	4.82	4.72	3.85	3.49*	5.36	5.32*	5.14	5.31	‡	
	SD	1.35	1.11	1.30	1.23	1.08	0.97	1.37	0.90	‡	
	p-value	0.068		p < 0.05		‡		‡		‡	
Gustomo *et al.* (2018)	Mean	5.45	5.94**	3.06	4.30**	5.29	5.88**	4.80	5.42**	3.53	5.30**
	SD	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
	t	3.039		4.63		3.29		2.40		4.81	
	p-value	0.002		0.00		0.00		0.009		0.00	
MacNab (2012)	Mean	3.28	4.27	‡		3.50	4.07**	3.35	4.00**	‡	‡
	SD	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡
	t	‡		‡		17.8		22.5		25.6	
	p-value	‡		‡		<0.001		<0.001		<0.001	
Nguyen *et al.* (2018)	Mean	‡		‡		‡		‡		4.59	4.73
	SD	‡		‡		‡		‡		0.71	0.85
	t	‡		‡		‡		‡		1.81	
	p-value	‡		‡		‡		‡		0.07	
Wood and St. Peters (2014)	Mean	4.8	5.64**	3.36	4.24**	5.12	5.61**	4.70	5.21	‡	
	SD	1.24	0.72	1.18	1.03	1.16	0.90	1.28	1.11	‡	
	t	-3.78		-3.68		-2.15		-2.15		‡	
	p-value	0.003		0.004		0.034		0.053		‡	

* Stands for negative results
** Stands for significant difference
‡ Stands for not reported results

Table 3. Description of CQ studies

Source	Country	N	School	Research design	Intervention	Duration	Outcomes
Abdien and Jacob (2018)	Egypt Spain	174	Hotels/hospitality	Cross-sectional	Cultural training (course) Placement abroad	9 months	Cultural training & CQ
Bücker and Korzilius (2015)	Netherlands France	66 (15 control)	Business (international management)	Pre/post	Cultural training	Not reported	Cultural training (simulation), self-efficacy & CQ
Crowne (2008)	US	140	Not reported	Cross-sectional	Cultural exposure	NA	Cultural exposure & CQ
Eisenberg *et al.* (2013)	Australia	289	Business	Cross-sectional	Cultural training (experiential learning- role-play and experiences in different countries)	Study-1: 2.5 days Study-2: 1-12 weeks	Cultural training & CQ
Fischer (2011)	New Zealand	49	Psychology	Pre/post	Cultural training (lectures, simulation game and excel)	6 weeks	CQ and essentialism
Gustomo *et al.* (2018)	Indonesia	33	Business	Pre/post	Field trip (Thailand, Singapore, or Australia)	Not reported	Coping strategies & CQ
MacNab (2012)	Australia	743	Management education	Pre/post	Cultural training	8 weeks	Communication
Nguyen *et al.* (2018)	US	79 (15 interviews)	Not reported	Mixed methods Pre/post + interviews	Study abroad (Puerto Rico and the U.S. Virgin Islands)	5 weeks	Self-efficacy & CQ
Wood and St. Peters (2014)	US	42	MBA	Pre/post	Study tour (Midland China and Hong Kong, Italy and Germany, and Costa Rica)	11-12 days	Cultural exposure & CQ

2.4 Cultural training in pharmacy education

Pharmacy education has witnessed numerous efforts to prepare students to provide patient-centred interculturally competent care. Evidence shows that pharmacy students are affected by negative stereotyping towards people from diverse and marginalised groups (Chen, LaLopa, & Dang, 2008). Most educational efforts focus on developing intercultural competence in three domains which are knowledge, attitude, and skills. The *knowledge-based approach* focuses on giving information about intercultural competence, such as definitions of relevant terms (e.g., culture, race, ethnicity, etc.), social determinants of health, and health inequalities. *Attitude-based programmes* include perspective-taking, acknowledgement of various health beliefs and their impact on behaviour and the decision making process (Poirier *et al.*, 2009) or developing a certain attitude, such as empathy and respect (Chen, Kiersma, Yehle, & Plake, 2015; Chen, Plake, Yehle, & Kiersma, 2011; Chen *et al.*, 2008; Oliver *et al.*, 1995). Educational strategies used in this area include case discussion, assigned readings and reflection. The *skills-based approach* mainly focuses on communication skills and interviewing skills. One activity used to promote skills is role-play using patient explanatory models to elicit patients' information and enhance communication with patients (LEARN[1], ADHERE[2], SOLER[3], Klienman questions[4]). Additionally, external or out-of-class activities were used to develop skills, such as service learning (Liu, Poirier, Butler, Comrie, & Pailden, 2015; Poirier *et al.*, 2009).

The literature on intercultural competence in pharmacy is rich. However, the models used are disparate and most of them are adapted from other fields. This review aims to summarise educational methods used to develop

[1] LEARN = listen, explain, acknowledge, recommend, negotiate.
[2] ADHERE = acknowledge, discuss, handle, evaluate, recommend, empower.
[3] SOLER (model for non-verbal communication/active learning) = Squarely facing the patient, Open posture, Lean slightly toward patient, Eye contact (if culturally appropriate), Relaxed while communicating.
[4] Eight questions to elicit patient's information about health beliefs.

intercultural competence in pharmacy schools and to identify parameters used to assess pharmacy students' intercultural competence.

2.4.1 Methods

An electronic database search was conducted in a range of databases including PubMed, and the Educational Resources Information Centre (ERIC) databases. The search terms used include *cultural competence, intercultural competence, cultural diversity, cultural awareness, pharmacy students, assessment* and *pharmacy*.

A secondary search of the references list of relevant articles was conducted; no time or study type limits were applied to the searches. Studies were included if they include a description of already existing teaching practices to develop intercultural competence in pharmacy students, a description of newly implemented interventions aiming to enhance pharmacy students' intercultural competence, or an evaluation of pharmacy students' intercultural competence. Studies were excluded if participants are professional pharmacists, teaching staff members or non-pharmacy students.

Article quality was assessed based on fulfilling the following criteria:

- Clarity of the assessed construct (ICC definition and its domains)
- Description of the patient population (e.g., racial groups, elderly, patients with HIV/AIDS)
- Good fit between the assessed construct and the method of evaluation
- Description of the teaching strategies (either existing or newly introduced) that could impact students ICC
- Description of participants' characteristics and factors that could affect ICC (e.g. prior experiences)

The quality of the included studies was ranked into A, B, and C based on addressing the criteria mentioned above. A study was ranked A if it addressed at least four criteria. Rank B was applicable for any study addressing two or three criteria and the lowest quality, class C, if only one criterion was addressed or none.

2.4.2 Results

The initial search of the literature revealed 98 articles. Following title and abstract screening and full review, 25 articles met the inclusion criteria. A secondary search of selected article bibliographies yielded an additional ten articles making the total number of studies 35. This review is divided into two main sections (1) studies describing educational interventions (23 articles) and (2) studies that include assessment of students' intercultural competence (25 articles). Thirteen of the studies included both assessment of intercultural competence and implementation of some educational interventions. According to the ranking system used, four studies were ranked as "A"- high quality; 20 as "B" – medium quality; and 11 as "C" – low quality. There are a wide variety of in-class and external instructional strategies reportedly used to enhance pharmacy students' intercultural competence (Table 4). Only rarely was there a study that used just a single educational strategy. A detailed description of methods/interventions is reported in Appendix 1. All the reported studies identified came from North America. The vast majority of educational methods reported in the literature used active learning to foster pharmacy students' intercultural competence. Educational strategies were categorised, based on delivery methods, into in-class and external methods.

Table 4. Classification of teaching methods in pharmacy education

Delivery modes		
In-class learning activities	External learning activities	
Lectures (guest speakers) Workshops Simulation (simulated patients, role-play and simulation games) Videos (case-studies) Class discussion (assigned readings, presentation) Global class discussion (with students from a foreign institution) Language training/education Team-based learning	Service learning (national and international) Placement/training Education abroad Project/research at a foreign institution	
Approaches used in the training		
Knowledge-based	Skills-based	Attitude-based
Concepts and terms Social determinants of health Dietary restrictions Religious restrictions	Communication skills Process of communication (building rapport, overcoming communication barriers) Outcome of communication (mutual understanding, trust) Interviewing skills (eliciting patient's beliefs on treatment and health using explanatory models, active listening)	Perspective-taking and its impact on behaviour Empathy Respect Suspending judgments

Educational methods used in pharmacy

External activities

International immersive experiences

Only two studies used international immersive experiences where students live in a genuinely new culture (Rosemin *et al.*, 2013; VanTyle *et al.*, 2011). This could be due to the high cost of this type of intervention and the legislative aspects of visiting a new country. The scope of the two interventions used was different. In one intervention, service learning in Uganda for six weeks, students actively participated in patient care, whereas in the second one, a "cultural trip" to Mexico for two weeks, students attended daily classes with a Spanish instructor for 55 hours and lived with local host families to improve

their Spanish language skills. Service learning is a type of experiential learning that allows students to engage in volunteering community service activities integrated with reflection and instruction to enhance the learning experience (Rosemin *et al.*, 2013). Pharmacy educators, mainly from North America, exploit this strategy within national and international communities (Brown, Heaton, & Wall, 2007; Rosemin *et al.*, 2013; VanTyle *et al.*, 2011). The impact of this method on intercultural competence development differs based on the goals and activities. Qualitative analysis of students who participated in service learning in Uganda showed a positive change in attitude from stigma to appreciation of patients with HIV/AIDS. Students who participated in Spanish lessons passed the exams that show improvement in their language skills. The "cultural trip" initiative was part of five courses in Butler University that aimed to improve Spanish language skills to enhance effective communication with Spanish speaking patients. However, improving knowledge in a specific language could seem a very narrow approach in enhancing intercultural competence.

National immersive experiences/service learning

Service learning is different from placement since it aims to provide benefits to both students and patients, while it ensures a high quality of service is provided and that learning happens (Rosemin *et al.*, 2013). Two studies reported engaging students in national service learning to cultivate their intercultural competence (Brown *et al.*, 2007; VanTyle *et al.*, 2011). A small number of students in the early and late stages of their studies participated in service learning because of the need forf direct supervision. As mentioned earlier, the impact on students' skills differs based on the activities and the scope of the educational strategy. Fifth year students from Butler University spent 20 hours at a local clinic to provide patient education in Spanish whereas first year students from the University of Cincinnati spent 20-60 hours performing a wide range of activities ranging from filling prescriptions to travelling to patients in rural areas to deliver their medications. Reaching poor patients in their own environment would more likely change students' attitudes toward patients and social issues that impact health and access to care rather than knowing a new language.

Training or placement

Students near the end of their study spend specific hours applying their professional knowledge to practice, which is called advanced pharmacy practice experience (APPE) in US programmes. Three studies reported their results in several student cohorts (Chen *et al.*, 2008; Haack, 2008; VanTyle *et al.*, 2011). While Butler University focused narrowly on enhancing students' Spanish language skills, other placement programmes offered by Drake and Purdue universities aimed at changing students' negative assumptions towards specific groups of patients (e.g., patients with HIV/AIDS, homeless and illiterate patients). The strength of this strategy includes direct contact with real patients that allows students to apply their professional knowledge and skills for practice. Reflection helped students to be focused on the learning objectives.

In-class learning activities

Simulation

Of the papers reviewed, simulation was the most commonly used method to teach intercultural competence in pharmacy (n = 9 studies) (Brown *et al.*, 2016; Chen *et al.*, 2011; Chen *et al.*, 2008; Evans, Lombardo, Belgeri, & Fontane, 2005; Oliver *et al.*, 1995; Richey Smith, Ryder, Bilodeau, & Schultz, 2016; Sales, Jonkman, Connor, & Hall, 2013; Trujillo & Hardy, 2009; Westberg, Bumgradner, & Lind, 2005). The simulation game is one of the earliest methods used to develop students' empathy in dealing with elderly patients (Oliver *et al.*, 1995). The first simulation game used is called the geriatric medication game (GMG), where students put themselves in a patient's position for three hours to understand their challenges. The GMG is associated with a significant increase ($p < 0.01$) in students' empathy, measured by the Jefferson Scale of Empathy-Health Professions Scale (JSE-HPS), towards elderly patients (Chen *et al.*, 2008). Qualitative analysis of first year students' reflection for four years (n = 624) at Purdue university revealed that students expressed frustration at the beginning of the activity as they considered it a new challenge which made them consider changing their attitude towards the elderly in future (Chen *et al.*, 2011).

Another simulation game, BaFa BaFa, aims to develop the skills needed when encountering uncertainty due to unfamiliar behaviours that are governed by different beliefs and values (Westberg *et al.*, 2005). In this study, students were divided into two groups, each group represents a unique culture that has certain rules and communication styles. Students were asked to communicate with members of the different culture where they encounter misunderstanding and difficulty. At the end of the session, a debriefing was conducted with a staff member where students reflected on their experiences and gained a deeper appreciation of different perspectives. The strengths of this strategy include practising in a safe environment and application of skills needed in situations that challenge cultural norms and values. Although BaFa BaFa is not a pharmacy-specific activity, it can help develop cognitive, affective, and behavioural aspects of intercultural competence. The impact of simulation on skills and cultural desire was significantly higher than that from lectures ($p < 0.005$) *(Sales et al., 2013).*

Lectures

Lectures have been the traditional method of teaching for centuries. A lecture is structured which makes it ideal for delivering a large amount of information. Although there is criticism of lectures for being passive, guest speakers from various cultural groups are reported to encourage students to ask culture-specific questions (Durand, Abel, Silva, & Desilets, 2012; Evans, 2006). All reported studies that used lectures combined them with other methods of teaching. Thus, the direct impact of lectures in intercultural competence was not clear.

Videos (case studies)

The strengths of using videos include using actors that mimic the patient's age, gender, or ethnicity. The videos used were either specially designed by staff members or adapted from movies or educational materials (Arif, Cryder, Mazan, Quinones-Boex, & Cyganska, 2017; Haack & Phillips, 2012; Liu *et al.*, 2015; Muzumdar, Holiday-Goodman, Black, & Powers, 2010; Vyas & Caligiuri, 2010) . In all situations the use of video-taped case studies was followed by small group or class discussions which promote the exchange of ideas. A

study by Arif *et al.* (2017) reported a significant increase in the perceived knowledge, attitude, and comfort towards working in culturally diverse situations *($p < 0.005$)* after watching video-taped cases and involving discussion.

Team-based learning

This initiative in teaching intercultural competence resulted in a significant increase in five dimensions of intercultural competence, i.e. cultural knowledge, skills, awareness, encounter, and desire (Poirier *et al.*, 2009). The idea of this strategy is to build groups that evolve as cohesive teams through doing assignments as a team.

Global class discussion

A class discussion between second year students at the University of Saskatchewan in Canada and fourth year students at Qatar University was used to enhance students' communication across cultural boundaries (Wilby *et al.*, 2015). Direct observation and feedback by staff members indicated that students communicated well and good analytical skills were demonstrated. This strategy may need participants to attend out of work hours due to time differences between two countries.

Language training

Butler University dictated five courses, as mentioned previously, to develop Spanish language skills in pharmacy students (VanTyle *et al.*, 2011). All the students who participated in the activities passed the exams which means they possessed some elements of knowledge in a new language that could facilitate their interaction with Spanish speaking patients. However, this strategy does not develop other aspects of intercultural competence (e.g. attitudinal and behavioural aspects).

Assessment of intercultural competence amongst pharmacy students

Most studies reduced the concept of intercultural competence to numbers that can be measured using different scales and assessed it using quantitative approaches. This said, the clarity of models used to define the abstract

concept and convert it to measurable dimensions varied widely (Appendix 2). Surprisingly, only five studies used evaluation methods that fit with their functioning definitions of intercultural competence. The most widely used method of assessment is surveys that can be standardised to allow comparison of responses between students. Few studies used qualitative approaches to assess students' intercultural competence. The two qualitative methods identified are focus groups (Muzumdar *et al.*, 2010) and written reflection (Brown *et al.*, 2007; Chen *et al.*, 2008; Jarvis, James, Giles, & Turner, 2004). Studies included for assessment review if they used a specific tool of assessment and a description of the assessment methods of the instructional design studies are illustrated in Appendix 2.

Self-report measures

Likert scale items

Most studies reported captured responses by self-report Likert items (n = 20 studies). Likert scale items can be used to measure respondents' attitudes assuming a linearity of responses (Bryman, 2012). Studies reviewed in this paper attempted to measure perceived knowledge, skills and attitude using Likert-type scales. The length of tools ranged from seven items to 68 items (Echeverri, Brookover, & Kennedy, 2013; Saha, Beach, & Cooper, 2008). The majority of the scales used consisted of five points, some used a 3-point scale and some used a combination of two scales (e.g., 5 and 7-point, and 3 and 5-point Likert scales) in the same tool (Brown *et al.*, 2007; Falter *et al.*, 2011).

Visual analogue scale

This method is less common in assessing intercultural competence (n = 1) (Muzumdar *et al.*, 2010). A visual analogue scale is adapted from pain tools where pain intensity is believed to be continuous, and not happening in intervals. Students were given a line that links two extremes for each statement (i.e. from "no understanding" to "complete understanding" and from "no confidence" to "complete confidence"). Students were asked to mark a point on the line that marks their response. Responses were identified by measuring the distance from the left (no understanding/no confidence) to the response point.

Multiple choice questions (MCQs)

Multiple choice questions are typically used to assess the knowledge dimension of intercultural competence. Reported studies assessed knowledge about a new language (VanTyle *et al.*, 2011), cultural barriers (Arif *et al.*, 2017), and health disparities (Liu *et al.*, 2015). The limitation of using MCQs in assessing intercultural competence lies in their ability to capture only one dimension, i.e. knowledge.

Implicit association test (IAT)

Only one study measured students' unconscious bias using the Implicit Association Test (IAT)[5] (White-Means, Zhiyong, Hufstader, & Brown, 2009). IAT is a web-based test that is claimed to measure hidden/unconscious biases toward race, skin colour, politics, and other social characteristics (Greenwald, Poehlman, Uhlmann, & Banaji, 2009). The idea behind IAT is the assumption that the faster a respondent makes a connection between two concepts the stronger the relationship in their mind it is (Greenwald *et al.*, 2009). This is done by measuring the response time (latency) for making a response. IAT is criticised for being specific to the US, where race is historically conceptualised as dichotomous (Black and White). White-Means *et al.* (2009) found that two IATs were negatively correlated with intercultural competence and all students' results suggested that they had an unconscious bias towards lighter skin colour.

Written reflection

Written reflection can give deep insights into the change in students' attitudes, knowledge or behaviour. Seven studies reported using reflective assignments to assess students' intercultural competence, but only one study mentioned their method of analysis (i.e. content analysis) (Chen *et al.*, 2011). This method could give suggestions for improvement by reporting aspects that work or do not work well for students (VanTyle *et al.*, 2011). Analysis of written reflection is time-consuming which may be difficult with a large number of students.

[5] IAT can be found at http://implicit.harvard.edu/implicit

Situational judgment test (SJT)

This assessment was only used in one study (Dang *et al.*, 2019) where test takers responded to a hypothetical task-related situation . Respondents were prompted by asking 'what would you do?' to capture their behaviour and knowledge components. SJTs have been found to have substantial face, content and criterion validity (Griffith *et al.*, 2016). Results are typically classified into most effective/appropriate, neutral and least effective/appropriate.

2.4.3 Discussion

Educational methods

The reviewed studies used various forms of cultural training which were based on different conceptualisations of ICC and no study used the CQ model. Although some of the reviewed studies used a combination of teaching strategies, few relied on a single intervention to enhance intercultural competence. Despite the reported improvement in students' skills after the interventions, it is unknown if students will have the skills after graduation to apply them in practice (O'Connell *et al.*, 2013).

Findings showed that teaching intercultural competence in pharmacy schools used mainly experiential learning methods. This could reflect the progress in the last decade. In contrast to Onyoni *et al*.'s findings in 2007, didactic lecture was the most common method of delivering intercultural competence training in the US and Canada (51%) and experiential learning accounted for 18% (Onyoni & Ives, 2007). Global class discussion worked well because both staff members were Canadian-trained pharmacists. A similar strategy was used in institutions in the US and China. However, communication barriers and problems in connections were evident which may have impacted the quality of the interaction (Pan, Ryan, & Cain, 2015).

The methods used to teach intercultural competence are similar to those used in nursing (Long, 2012). Although nursing was the first field of health professions to incorporate intercultural competence in their curricula, some teaching methods (i.e. simulated patients, videos, and service learning) were

not reported in a review published in 2012 (Long, 2012). This may indicate that pharmacy education is highly advanced in teaching intercultural competence. Clearly, there are some practices that are not published in the literature in other countries but reported in some studies, such as study abroad and conducting projects in other countries (Kurtz *et al.*, 2018; O'Connell *et al.*, 2013).

Although the aim of this review was not to discuss the specific approaches used in teaching intercultural competence, nevertheless, essentialism was the most common approach. Essentialism assumes that deep differences are due to cultural differences (Falter *et al.*, 2011). Providing intercultural competence in this approach utilises a “dos and don’ts” list in dealing with certain groups of patients (Fischer, 2011). However, classifying patients based on values and beliefs which are considered hidden or invisible aspects of culture, according to the iceberg model of culture, is impractical (Hofstede & Hofstede, 2005). Basing intercultural competence education on essential beliefs would appear to foster stereotyping. Asking a patient, who comes to a community pharmacy to obtain medications, about their sexual orientation or religion would seem offensive, although it should not be assumed that all knowledge about certain groups leads to stereotyping. A lack of knowledge in patients with mental diseases and their illnesses were reported to be perceived barriers to providing pharmaceutical care (Liekens, Smits, Laekeman, & Foulon, 2012).

Assessment methods

A number of key assessment types were identified and discussed in the previous section. Given the multidimensional nature of intercultural competence, each method demonstrated some limitations in the assessment. It is suggested that intercultural competence assessment is best done with more than one method to capture different dimensions (Deardorff, 2011). Moreover, self-report measures were the most common methods, which could introduce cognitive and social desirability biases (Bryman, 2012). Students could respond to self-report questionnaires based on their *ideal self* which suggests that self-report tools are not the best method for assessing intercultural competence.

Some items are based on essentialism as mentioned before which makes the interpretation of the assessment item unclear. For instance, one tool included an item “effectively monitor the therapy of a patient from a background different than your own”. The background could be interpreted as gender, nationality, or occupation. Inaccurate assessment tools resulted from vagueness of the concept. Additionally, students may not have extensive experiences to provide a correct answer. Most importantly, only five studies showed a correlation between their definition of the concept and its assessment. Clarity in models used in pharmacy and development of a tool that clearly addresses the dimensions of intercultural competence is needed.

Factors that can affect the assessment

Not only does cultural diversity within classes enhance learning by challenging students’ assumptions and broaden their perspectives, but it can also enhance students’ knowledge, skills and abilities (Chisholm, 2004). Students were interested in asking other students from different cultures about their cultures which resulted in increased knowledge and appreciation of cultural differences (Evans, 2006).

Strengths and weaknesses

This review illuminates some issues regarding intercultural competence assessment in pharmacy which hopefully will promote discussions and guide future research. It is possible that some interventions in pharmacy education are not included in this review as it is not a systematic review. Reported studies are from North America, primarily from the US, thus generalisation of interpretations into other settings should be cautious.

2.4.4 Conclusion/summary

Pharmacy educators have taken a great leap forward in cultural training. Although the best method of teaching intercultural competence is unknown, a variety of methods that have been used showed a perceived improvement in the level of intercultural competence. Since the long-term impact of training on intercultural competence is not identified and given that intercultural competence is a life-long process, training should be revisited after

graduation. Given the multidimensional nature of intercultural competence, future assessment should focus on capturing more than one dimension.

2.5 Implications of ICC to pharmacy practice

As the review in section 2.4 above shows that pharmacy schools have provided numbers of cultural education activities that seem to enhance pharmacy students' intercultural competence. The review discussed teaching practices that are conducted as single interventions or part of certain courses. However, majority of pharmacy schools in the US and Canada integrate cultural training in multiple courses across several years (Buckley *et al.*, 2021). Although most studies in the review focused on health disparities as a rationale for cultural training, cultural diversity should not be considered the sole predictor for health outcomes. Cultural diversity is a contributing factor that affect pharmacist-patient relationship, access to care and preferences. Culturally intelligent pharmacist can recognise cultural needs and effectively meeting them in serving culturally diverse patient population. Cultural intelligence has been linked to outcomes that are necessary for effective intercultural interactions such as cultural adjustment, job performance, cultural judgment and decision making (Ang & Van Dyne, 2008). Evidence has shown that receiving cultural training would improve intercultural competence of health care professionals and increase patient satisfaction (Govere & Govere, 2016). Health care professionals would be better prepared for work with patients from diverse cultural groups after receiving cultural training (Biles, 2017). Differences in language, culture, and beliefs may affect preferences of patients to access care (Biles, 2017; Duckett, 2013). Improving intercultural competence of health care professionals would eliminate mis-understanding and enhance access to health care services.

The GPhC emphasised that pharmacy students should be prepared to provide patient-centred care (General Pharmaceutical Council, 2021). However, patient-centred care cannot be delivered if an individual cultural needs are not recognised and met. Patient-centredness emerged in response to limitations of traditional practice in health care that focuses on disease and addresses

the physician's agenda only (Saha *et al.*, 2008). Most calls for patient-centred care raise the concerns about treating a patient as a person using a biopsychosocial model, not merely as a body that has a disease, as in the biomedical model of care (Saha *et al.*, 2008). The starting point for patient-centred care was enhancing communication between patient and doctor. The idea was then developed to govern the health care system, instead of at the individual level, and the quality of care. In the literature, there are different frameworks to address patient-centredness but they tend to be vague and broad in their dimensions (Kitson, Marshall, Bassett, & Zeitz, 2013; Mead & Bower, 2002; Santana *et al.*, 2019). As patient-centred care (PCC) was proposed to overcome some limitations of traditional practice, it was mostly understood in what is not patient-centred, for example, technology-centred, or physician-centred care (Stewart, 2001). PCC is valuable to any discipline in health care (Stewart, 2001), however some argue that the concept is understood differently in different disciplines (Mead & Bower, 2002).

The two concepts (i.e. PCC and ICC) overlap in the areas of communication and taking the patient's perspective and preferences into consideration. However, PCC stresses the patient's satisfaction with the health care system and covers some other areas, such as time to see the HCPs, time to get a response and so on (Saha *et al.*, 2008). On the other hand, ICC tends to focus on the meaning of cultural differences and how they impact on behaviour and beliefs that are related to health and illnesses. Although there are overlaps between PCC and ICC on both the interpersonal and system levels, the ultimate goal of both concepts is to improve the quality of care which theoretically can improve health outcomes (Figure 6).

Most of the literature concerning the concept of PCC is from medical or nursing backgrounds. The pharmacy practice may not focus on some areas in medicine, such as length of consultation, or time of appointment, but the central point of seeing through the patient's eyes could be applied from the pharmacy perspective. The application of the concept in pharmacy is not drastically different to other disciplines such as medicine or nursing.

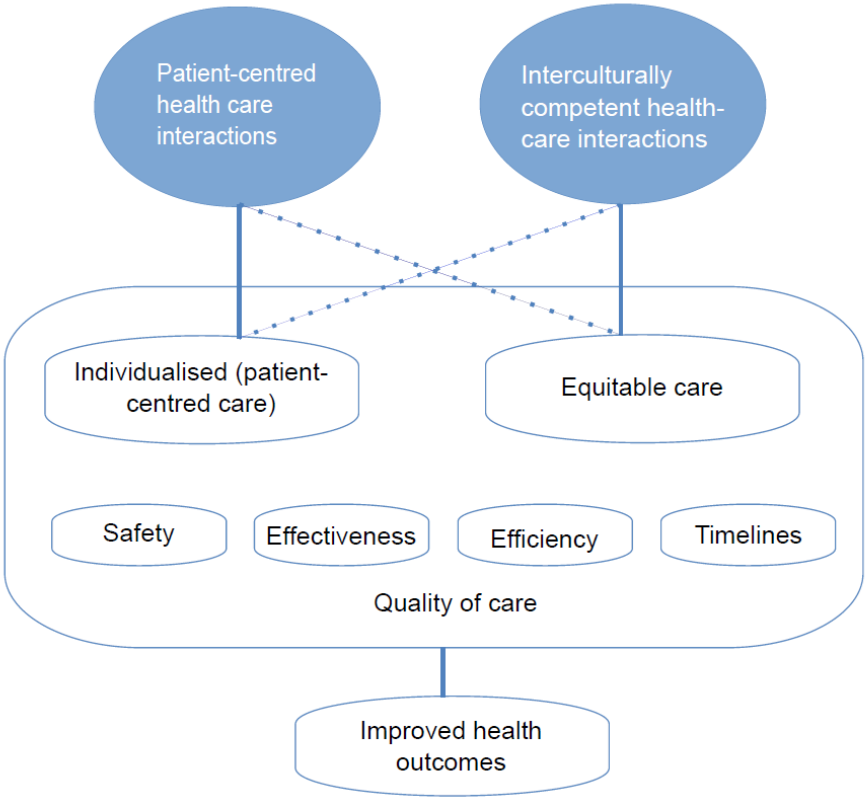

Figure 6. The overlap between patient-centredness and intercultural competence[6]

Given that PCC is a policy driver for improving health care safety and quality, its elements could fit into the three themes identified in a review of the literature of three disciplines, medicine, nursing, and health policy (Kitson *et al.*, 2013). The three themes of PCC literature are: 1) participation of the patient, 2) the relationship between patient and HCPs, and 3) the context where care is delivered. ICC is concerned with the effectiveness and accessibility of health care to all people from every cultural background by avoiding over-generalisation and treating a patient as an individual. In this sense, there is great overlap in the focus of both ICC and PCC. Both concepts aim at improving the quality of care and health outcomes. Previous research advocates improving the distinction between ICC and PCC to direct cultural training in health care education (Paternotte *et al.*, 2017).

[6] Source: (Saha, 2008)

2.6 Theoretical framework

Professional standards require that pharmacy schools provide evidence that pharmacy students received appropriate cultural training to play a positive role in tackling health issues (General Pharmaceutical Council, 2021). Strategies of improving CQ consider intercultural contact as a core element in cultural training. Mechanisms for developing CQ through intercultural contact need exploration based on contexts and understanding experiences. However, the concept of intercultural contact is not fully explained in the literature in terms of forms, duration, and context to aid the development of CQ.

The literature lacks consensus about the best method for cultural training and proper way of assessment, although experiential learning is positively linked to improvement of CQ. Cultural training in pharmacy literature used various methods and approaches which makes drawing conclusions difficult as it is impossible to compare different strategies. Educators in pharmacy explored how cultural training can be developed and improved (Aspden, Butler, Heinrich, Harwood, & Sheridan, 2017; Diaz-Cruz, 2019; Rockich-Winston & Wyatt, 2019). An exploratory study in New Zealand considered the view of the teaching staff regarding the content of cultural education in pharmacy schools and highlighted the challenges in incorporating cultural training in pharmacy curricula (Aspden *et al.*, 2017). Challenges included the broad nature and complexity of the ICC concept. Additionally, as the journey to ICC is a life-long developmental process, ICC should not be seen as something to develop once.

It is suggested that universities and educators in the UK should ensure to provision of a safe, encouraging and comfortable learning environment for all students to develop their intercultural capabilities (McKinley, Dunworth, Grimshaw, & Iwaniec, 2019). Discomfort can be manifested, for example, if students do not speak English as a native language (Zhang, 2016). Discomfort can be a barrier to developing CQ, decrease confidence, and impede social interactions. One assumption that seem to be common in the ICC literature is that a person can develop ICC through studying in a multi-cultural university. Although intercultural contact can be a predictor of the development of CQ

(Sousa *et al.*, 2019), I argue that students need to familiarise themselves with cultural differences which I consider as to be a mediator of CQ. Familiarity with cultural differences can affect certain factors that impact the development of ICC (Table 5).

Table 5. Factors affected by familiarity with cultural differences

Increased	Decreased
Trust	Stereotyping
Understanding	Unchecked assumptions
Empathy	Uncertainty
Intercultural adjustment	Stress
Self-confidence	Avoidance behaviour
Coping strategies	

Intercultural contact can lead to improvement in intercultural competence (Solomon & Steyn, 2017). The nature and context of contact varies from one individual to another; as ICC is a developmental process, contact starts from the person beginning to learn language, meanings of the world and interacting with people around him/her, therefore prior experiences should be considered. Students were asked, in the interviews, about their cultural identity, upbringing, home town, friends and social network during school.

The theoretical framework of this thesis was influenced by the CQ model (Earley & Ang, 2003), critical social thinking (Grossman *et al.*, 2015), contact theory (Allport *et al.*, 1954), and the proposed framework in developing ICC in HE (Griffith *et al.*, 2016). The CQ model provides an explanation of the process of interaction, however situations between culturally diverse people are too complex to be addressed in training. Cultural training needs understanding of the process of interaction linked with skills that are applicable. Although the CQ model provides a way of theorising and assessing intercultural capabilities, it lacks the explanation of relationship between its factors which I think can be overcome by using the framework that is based on individual social critical thinking. The process of intercultural contact can be described in three phases:

approach, analyse, and act. The approach phase can be linked to motivational CQ, while the analyse phase related to the cognitive and metacognitive CQ. The behavioural CQ can be linked to the act phase when a person produces their actions in culturally diverse situations.

The claim is that familiarity with cultural differences improves the intercultural competence of pharmacy students. Theoretically, interculturally competent graduates will play a key role in tackling the current issues of health inequalities and respond effectively to cultural needs in their future practice. The framework is explained in Figure 7. An individual approaches culturally diverse situations with their knowledge base of familiarity with cultural differences. If a person faces a novel situation, the person uses their cognitive and metacognitive CQ to analyse and direct their behavioural CQ. In case of pharmacist-patient encounters, the cultural differences may need the pharmacist to interpret the cultural cues and apply them to the communication style and therapeutic plan.

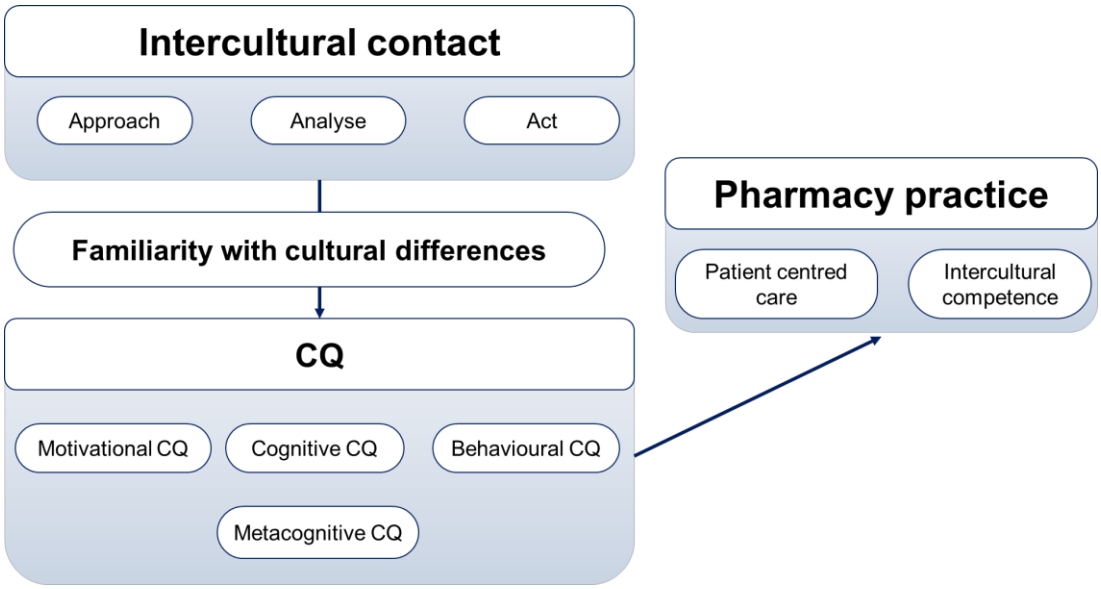

Figure 7. Theoretical framework of the thesis

2.7 Chapter summary

This chapter reviewed the literature on teaching and learning about cultural diversity. It summarised the educational methods used to develop ICC and identified major challenges for effective training. A detailed review of the literature in pharmacy education was discussed. It also summarised the previous studies that used the CQ model. The next chapter discusses the methodology and methods.

Chapter 3. Methodology and methods

3.1 Introduction

This chapter presents the research methodology and methods used in this thesis to address the aims and objectives presented in Chapter 1. Since intercultural competence is a multi-dimensional concept, it is recommended that multiple methods are used in its assessment in research (Deardorff, 2009). A complex mixed methods approach was therefore used in the present study to provide deep understanding of students' views. The obtained results informed the design of an educational intervention that is reported in Chapter 6. The research design was informed by the literature review and a philosophical framework that was constructed using the critical realist paradigm (Bhaskar, 1991). The chapter discusses the research design, the philosophical stance, and ethical considerations. The methods of each study are discussed in the following three chapters because results of each stage were used to inform the following study. The chapter concludes with a summary.

3.2 Mixed methods approach

This thesis was designed to explore the needs for cultural training through understanding final year pharmacy students' experiences and reflection of their CQ in order to prepare them to play an active role in society as interculturally competent pharmacists. Students' perspectives were taken into consideration in addition to evidence from the literature to make curricular changes that foster students CQ. Students studied at the same school and sought the same degree, but have different experiences based on their cultural identities and backgrounds. The variation in experiences is not only related to demographic characteristics or agency, but also to social structures which affect how students interact with each other and their teachers. Actions of students are not only governed by the social rules in their institution. The agency which is concerned with the individual's choices, reasoning, meanings, and intentions affects how students decide to behave in intercultural situations.

An individual can belong to various cultural groups and have different views in different contexts. Even if some students belong to the same cultural group, their early life experiences are different and can shape their worldviews and how they experience cultural diversity. Culture is seen as real as it has observable effects on different worldviews, beliefs, and values. It influences behaviour as it is directed by the meaning formed by individuals about the world and how things work.

Given the complexity of the cultural intelligence concept and related theories (Ott & Michailova, 2018; Solomon & Steyn, 2017), mixed methods research was employed to provide a deep understanding of students' views and perceptions and allow evaluation of a small-scale intervention. The name implies that the mixed methods approach is about mixing different methods, techniques, or tools to address certain research problem(s) (Bryman, 2012; Creswell, 2018; Tashakkori & Teddlie, 2010). It should be noted that these methods could utilise qualitative or quantitative approaches. Quantitative data are usually represented by numbers which refer to variables related to the phenomenon under investigation, whilst qualitative data are represented mainly by text that could refer to people's feelings, attitudes, behaviour, experiences, and opinions (Bryman, 2012; Creswell, 2018; Tashakkori & Teddlie, 2010). Using more than one method with just a qualitative or quantitative approach is not considered a mixed methods approach. Instead, the term used to describe mixing methods with the same approach is "multiple-methods". The reason for using different terms is that using different methods to generate various forms of data will probably have different philosophical assumptions. In contrast, if different methods with the same approach are used, for instance interview and observation, it is likely that the philosophical assumptions underpinning those approaches are similar.

3.2.1 Why was mixed method research used?

Several reasons for employing mixed methods research have been identified in the literature (Bryman, 2012; Creswell, 2018; Hadi, Alldred, Closs, & Briggs, 2014; Tashakkori & Teddlie, 2010). They can be summarised in two points: 1) overcoming limitations of one method by the strengths of another one, and 2)

providing a better understanding of the research problem. Most researchers would argue that the major motivation of using mixed methods is gaining "better understanding", "thick description of the phenomenon under investigation", "deep understanding", and "various perspectives". Undoubtedly, these reasons are desirable for any researcher to answer their research question(s), as they endeavour to gain comprehensive understanding. However, taking the "better understanding" one step further for discussion will lead to debatable points on different paradigms and philosophical and fundamental assumptions underpinning the mixed method research. This point will be discussed in detail below on p.79.

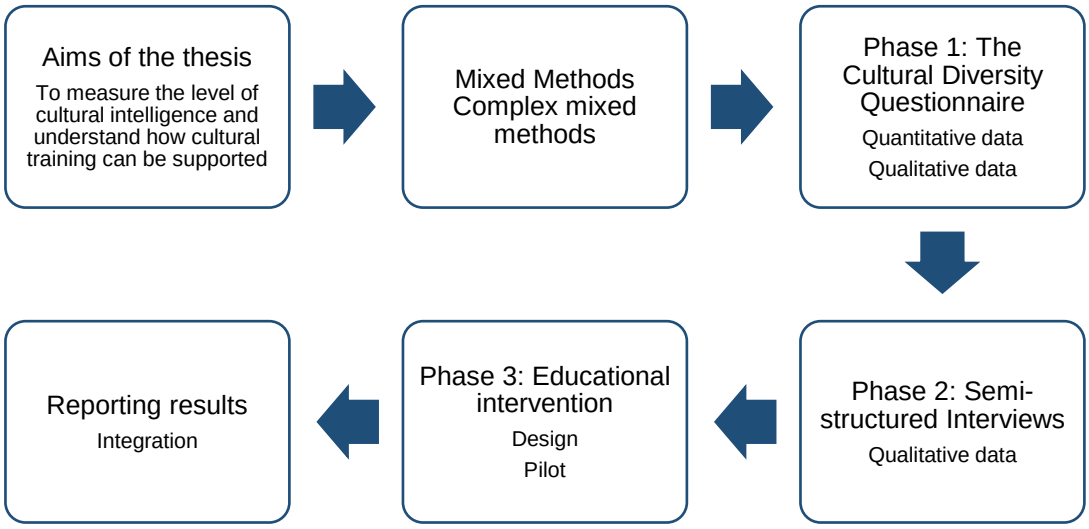

Figure 8. Research design of the thesis

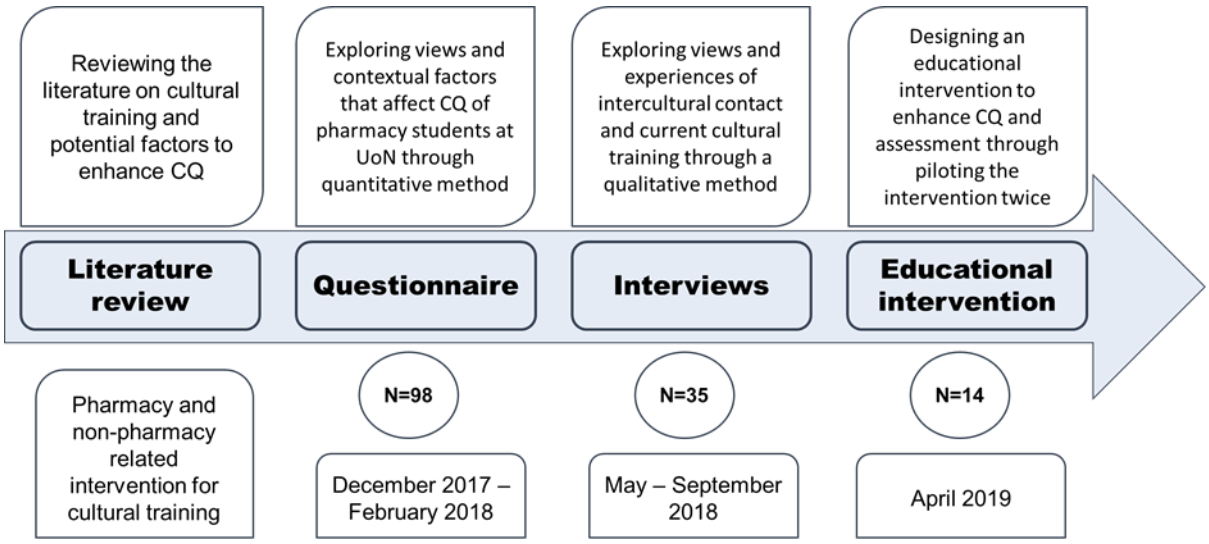

Figure 9. Phases of the research

The data, to inform the intervention, were collected using two methods (Figure 8). The intervention was informed by literature review in addition to the needs identified in the first two phases of this research (Figure 9). Detailed discussion of specific findings that guided the intervention is presented in Chapter 6. The cultural intelligence scale is designed and validated to assess four factors of cultural intelligence. Nevertheless, quantifying a certain type of intelligence is limited in understanding the nature of cultural intelligence in interacting with people in different contexts and other factors that affect students' behaviour. People construct meanings from situations that may guide their preferences and views. The meanings cannot be reached by quantitative measures. Moreover, findings of the questionnaire are limited in providing information on how and why questions. Therefore, it was necessary to use interviews to capture the perceived level of CQ and its related factors, in addition to deeply understanding factors and contexts that direct students' actions. Moreover, open questions were included to cover students' perception on the current cultural diversity training and potential needs; further explanation was needed to understand the variation in response.

There are certain strategies for employing mixed methods that would affect the types of the research. Most of them are concerned with the nature of the phenomenon under investigation or the quality of inferences drawn from

various types of methods. Scholars identified from three to eight outcomes of conducting mixed methods research (Bryman, 2012; Greene, Caracelli, & Graham, 1989; Hadi & Closs, 2016).The most commonly used strategies in the literature can be categorised into three types; development, triangulation and complex design (or approaches).

Development: one method can be used to develop another. This is referred to as the sequential method or following thread (O'Cathain, Murphy, & Nicholl, 2010). For instance, interviews could be conducted with the aim of developing a survey to investigate the research problem. Some divide mixed methods research into types based on the aim and strategies involved. Mixed methods research carried out on a sequential basis is divided into two types:

Explanatory sequential mixed methods research: when quantitative data is collected first to guide the explanation or elaboration of quantitative results (i.e. if an association is found between two variables in quantitative results, reasons and explanations cannot be answered without qualitative methods).

Exploratory sequential mixed methods research: qualitative data is collected first. Then quantitative data is collected based on results from the qualitative data that suggest a relationship between quantitative variables.

Triangulation: is used to maximise the strengths of the inferences drawn from data where the same variables are measured or assessed by using different methods. In this way, the weakness of one method is counterbalanced by the strength of another. In this regard, the phenomenon is assessed in different ways, so this use is different from the development use. This is usually the choice when researchers consider the problem or phenomenon under investigation to be *"complex".* Some researchers call this concurrent or parallel mixed methods research, as data could be collected using different methods at the same time (Venkatesh, Brown, & Bala, 2013).

Complex design (or approach): this approach does not use the traditional practices of mixed methods because more procedures are needed to conduct complex research (Creswell, 2018). This approach is not "advanced" that it used different or complicated methods. The steps or procedures in this type

usually take place in more than two phases that differ from the basic mixed methods designs (i.e. explanatory sequential, exploratory sequential, and parallel or convergent). Research using this type is usually for evaluations or interventions. Fetters, Curry, and Creswell (2013) identified four advanced frameworks, which are intervention, multistage, case-study, and participatory research. This current study was a multistage study that aimed to develop and test an educational intervention.

The strategy of using mixed methods in the thesis is the complex approach to aid the processes of developing and evaluation. As described earlier, each tool (i.e. the questionnaire and interview) was used to overcome certain limitations of the other and provide better understanding of the research problem. Inferences from the quantitative data, in the first phase, were developed using qualitative data, in the second phase, to inform the design of the educational intervention. Integration of results took place in different stages, starting from construction of the tool to reporting results. The success of the intervention was assessed in a pilot study at the end of the research. Both research tools and the educational intervention were used to report knowledge from the three layers of reality (Archer, Bhaskar, Collier, Lawson, & Norrie, 1998; Bhaskar, 1991; Schiller, 2016). Quantitative data in the questionnaire can capture knowledge on the empirical layer. Qualitative data obtained through open-questions and interviews aim to capture knowledge on the actual and real layers to explore mechanisms behind students' behaviours and attitude.

Integration of mixed methods research can take place at three levels; study design, methods, and interpretation and reporting (Figure 10). There are several typologies and strategies for integration in the literature such as triangulation (Östlund, Kidd, Wengström, & Rowa-Dewar, 2011), extreme or negative case analysis, intensive case analysis, typology development, data transformation, social network analysis, and pattern analysis using matrices (Bazeley, 2009), and joint displays (Guetterman, Fetters, & Creswell, 2015; Johnson, Grove, & Clarke, 2019; Younas, Pedersen, & Durante, 2020). I presented the strategies used in this study in Figure 10. The research

employed a complex mixed methods approach through conducting studies in multi-stages to explore realities in multi-levels in order to design and pilot a novel educational intervention. Data from the each phase were used to build the next phase and the design of the intervention connected findings from the questionnaire to expanded findings from interviews. Data were collected after piloting the intervention to assess the effectiveness in classroom. Interpretation of findings were presented in the final discussion of the thesis through using the staged approach of integration (Fetters *et al.*, 2013). The guidance is that results are reported separately as they were collected. I added an explanation about how each stage connected to the following stage by including sections about findings that influence the following stage.

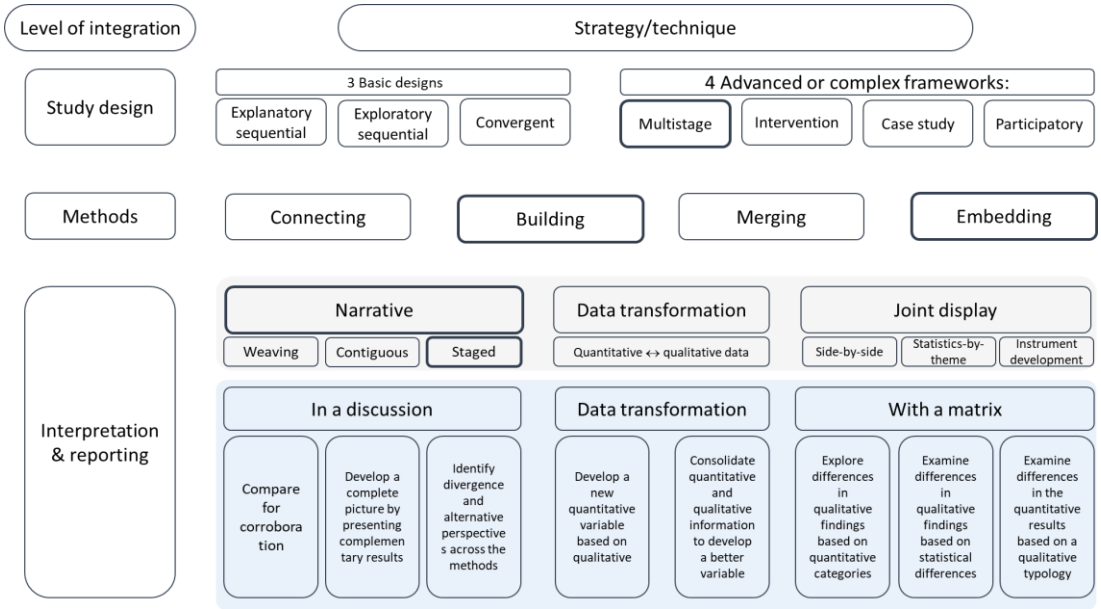

Figure 10. Integration in mixed methods research[7]

3.2.2 Strengths of mixed methods research

The merit of integrating qualitative and quantitative methods in one study is clearly evidenced in the literature (Bryman, 2012; Creswell, 2018; Tashakkori

[7] Source: (Fetters *et al.*, 2013), blue area (Plano Clark, Garrett, & Leslie-Pelecky, 2010), grey area (Fetters *et al.*, 2013)
Boxes with bold outlines present the choices of integrations strategy in this study.

& Teddlie, 2010). As mentioned above in the discussion of the aim of mixed methods research, it can provide more comprehensive insights into the phenomenon of interest compared to using either quantitative or qualitative methods alone. Generally quantitative data is used for hypothesis testing, whilst qualitative data is used to generate theories about a concept that is not well-understood (Bryman, 2007; Creswell, 2018; Hadi *et al.*, 2014; Tashakkori & Teddlie, 2010). In this way, mixed methods research could provide confirmation and exploration of research questions within one social research enquiry.

The second advantage of using mixed methods research is that it provides the opportunity to obtain meta-inferences. Inferences are the knowledge that can be reported from the collected data and meta-inferences are usually drawn from both quantitative and qualitative data (Tashakkori & Teddlie, 2010). In other words, obtaining both qualitative and quantitative inferences will help in combining both forms of inference together. The positive point on this approach is that disadvantages of inferences from a certain method can be overcome using inferences from another method whose strengths might overlap with the weakness of the first method. For instance, on one hand, interviews could provide a researcher with a deep understanding of participants' accounts. However, due to the long time needed to analyse these data, the researcher might only be able to interview a small number of participants. On the other hand, surveys could be used to collect general data from a large number of participants over a short period of time. By mixing both quantitative and qualitative methods in one research enquiry, the researcher could thus gain both breadth and depth of knowledge.

Finally, divergent and/or complementary views on findings could direct future research. It is possible to find contradictory findings from qualitative and quantitative inferences. These contradictions are valuable, as they lead to questioning of the current conceptual framework and assumptions underpinning both approaches to research (Venkatesh *et al.*, 2013). Likewise, complementary results are important in offering a holistic picture of the

phenomenon of interest with clarification of the relationships of its components.

3.2.3 Philosophical assumptions underpinning mixed methods research

If we accept the premise that the aim of mixing qualitative and quantitative methods is to reach a *deep understanding,* we assume that the reality is too complex to be studied using a single approach. This could imply that the reality is stratified, as in the critical realism paradigm (Archer *et al.*, 1998; Bhaskar, 1991). It could also imply that the reality is constructed by people, and that people have different realities based on their backgrounds and perspectives of the world, as in the constructivist or the interpretative paradigm (Bryman, 2012; Creswell, 2018; Tashakkori & Teddlie, 2010). It is possible for a researcher to start investigating a research problem and collect data that could be beneficial in answering the research questions without holding assumptions related to the world, as in the pragmatist paradigm (Creswell, 2018; Tashakkori & Teddlie, 2010).

There has been a debate in the literature for many years over a paradigm that is scientifically sound and compatible with mixed methods research: some call it “paradigm wars” (Creswell, 2007; Tashakkori & Teddlie, 2010). To clarify, I do not use “paradigm” with the qualitative, quantitative, or mixed method approaches. As the term “paradigm” was first used by Thomas Kuhn (1996) to mean a network of beliefs or agreed on assumptions where scientists communicate their work. Kuhn suggested that after a scientific revolution, a paradigm should be changed to another one that can explain the new puzzle of the research problem (Kuhn, 1996). In other words, a paradigm is the accepted common practices and rules in a certain discipline, which could involve various terms. As constructivism has a radical view on the nature of objects in the natural world, it would seem to fail to support the philosophical fundamentals of mixed methods research. Constructivism could support the qualitative approach but cannot withstand the assumptions of the quantitative approach. The main reason for this is that constructivists reject the possibility of obtaining verifiable, objective data about the world as they believe that

knowledge can only be constructed under certain social or cultural situations (Bryman, 2012; Tashakkori & Teddlie, 2010).

Pragmatists would argue that methods can be combined based on their practical utility, and that philosophical contradictions should not be the main focus when embracing a certain type of method or combination of methods. In other words, they focus on the implications rather than pre-set statements of ontology. Some would accept pragmatism as a working paradigm for mixed methods research. That is to say, the choice of mixed methods research should be guided and supported largely by the *purpose* of the study to address the research problem(s). Walker (2009) advocates using pragmatism based on it being "the elegant solution". Although, pragmatism can justify using the mixed methods approach epistemologically, it fails to justify this on an ontological level due to the limited nature of the paradigm.

Critical realism

In the critical realism paradigm, the complexity of reality as being manifested in three layers and the limited access of the external reality direct how inferences are being collected from data. The retroduction approach values inductive reasoning, which is the standard technique of drawing inferences from data in empiricists' paradigms, such as positivism and grounded theory (Creswell, 2018; Glaser & Strauss, 1968). I acknowledge that grounded theory may not be considered as a pure empiricist paradigm (Bazeley, 2013). However, inferences from the data with researcher's interpretations are not enough to analyse the data and report findings according to the critical realism perspective (Archer *et al.*, 1998; Fletcher, 2017). Traditionally, grounded theory tends to generate a theory that is rooted in the data in an inductive way. The collected data have an important insight that needs exploration of why and how things happen through re-visiting the literature in an iterative way.

I would argue that critical realism could help to address the philosophical disagreement around the fundamentals of mixed methods research. In critical realism, the descriptions of ontology and epistemology which guide methodological statements and choices are compatible with the mixed

methods approach. Whilst critical realists believe that the social reality (i.e. concepts and metaphysical terms) is real and external to our perception or knowledge of it, they share the epistemological position of constructivism and pragmatism. They acknowledge that there are two types of knowledge - transitive and intransitive - such that the knowledge, or the collected data, could be fallible or true. In this way, critical realism shares the same epistemological premise that the collected data could be a misrepresentation of the world and therefore fallible. However, the knowledge about the external world itself is unchanging. Critical realism supports the view that science proceeds through correction of errors rather than accumulation of facts as in positivism (Chalmers, 2013).

What makes critical realism a promising philosophical framework for mixed methods research is its ontology and its use of causal language in a sophisticated way to explain complex social phenomena. As Bhaskar described it, reality is stratified into three layers: the real, the actual, and the empirical (Archer *et al.*, 1998). The empirical domain contains what a person experiences through his or her senses. The actual domain is concerned with events that actually occur, whether a person experiences them or not. The deepest domain is the real, in which identification of generative mechanisms is important to explain events, and those mechanisms could be activated or not activated. For example, a person may experience a myocardial infarction (MI) on the empirical level or observe a person who has had an MI, or may identify the frequency of MI for certain groups and then calculate significant differences over time (Nairn, 2012). The occurrence of an MI could escape the person's attention on the actual level: a person may die or collapse without identification of the event. All data on this level fails to describe *why* MIs occur or *why* some groups of people experience MIs more than others. In order to explain "why", we need to understand generative mechanisms, such as physical and social factors. Multiple mechanisms need to be understood to explain the real underpinning of MIs. In short, critical realism provides explanations for potential events in the real level rather than actual events at the empirical level, as in positivism.

3.2.4 Practical challenges of mixed methods research

This section contains some challenges on the theoretical level and it goes on to examine how some uncertainties can affect the results drawn from mixing quantitative and qualitative methods. It is vital that the collection of two different types of data is taken into consideration from the beginning of the research. Researchers should be clear on how to integrate them and the inferences drawn from them at each stage, rather than leave it to the end of the research. The choice of data integration and drawing of meta-inferences largely depends on the strategy of conducting mixed methods research (i.e. concurrent, sequential, or complex). In other words, researchers should have clear answers to two questions: (1) why the choice of using qualitative and quantitative methods was made to understand the phenomenon of interest, and (2) how the various methods are attempting to provide answers on the research question. The first question can be justified on the theoretical level. The most important point for researchers is to think about the practicality of carrying out the research (i.e. the second question). The primary research question should guide the research design, but doing so is not a straightforward choice: as Bryman sees it, “researchers may have a general impression that such a research approach is desirable, but feel that the implications of research questions for methodological choices are not as obvious as textbooks imply” (Bryman, 2007, p. 13). A study that interviewed twenty social researchers who worked with mixed methods found that their main concern was about how to bring together the analysis and interpretation of qualitative and quantitative data and draw conclusions that reflect the link between them, rather than reporting each interpretation separately (Bryman, 2007).

In the present study, the results derived from questionnaires and interviews conducted sequentially and inferences from both methods were combined in the final analyses and with interpretations to provide a rich explanation of how students perceived themselves. The questionnaire data were used to inform the development of the interview guide. Additionally, qualitative data was used to understand why students gave certain answers, that is to say, qualitative

data were informed by quantitative data inferences from both studies which were then used to direct the development of phase 3, (educational intervention), of this thesis. Discussion of the design and evaluation of this intervention is presented in Chapter 6.

3.3 Ethical considerations

In the present study, it was made clear to all research participants that participation in the research was voluntary. For the first phase, information were presented at the first page of the online questionnaire and consent was taken electronically by pressing “I agree” when students agree to participate, An information sheet was sent to students and contact details of the research team were provided in case of the need for more clarification. Consent forms were signed by students who took part (Appendix 3). Interviews were conducted on university campuses except for one in a student’s house for the reason of convenience; a risk assessment was done before going to the student’s house. All interviews were conducted by the same researcher and relationships with students were formed by having a short chat before the interviews. At the beginning of each interview, the purpose of the research and the condition of confidentiality were restated. Students were asked to raise any point of concern or withdraw at any point without affecting them. All data were anonymised and no impact on students’ academic assessment is expected.

All study staff and investigators endeavoured to protect the rights of the study’s participants to privacy and adhered to the Data Protection Act, 2018. I only collected the minimum required personal information for the purposes of the study. Consent forms were held securely, in a locked room, or locked cupboard or cabinet. Information from the study of the participants’ demographic data was treated confidentially in the same way as all other confidential information. Electronic data were stored on the university research disk drive which is backed up at least once every 24 hours. Access to the information was limited to the project supervisors and myself. The computer holding data, including the study database, was held securely and password protected. All data were stored on a secure dedicated web server. Access was

restricted by user identifiers and passwords (encrypted using a one-way encryption method). University of Nottingham laptops are encrypted using Windows BitLocker 128 bit-AES (Advanced Encryption Standard). The ethics committee in the School of Pharmacy approved the research and the reference number is 031-2017fr (Appendix 4). The ethical approval was obtained for all stages of the study, however, the study protocol was changed for phase two to include face-face recruitment and telephone interviews.

3.4 The setting

Nottingham is a city in the East Midlands of England with an estimated population of 332,900 (Office for National Statistics, 2020). It is approximately 128 miles (206 km) north of London. The percentage of BAME groups in Nottingham has grown from 19% in 2001 to 35% in 2011 (Office for National Statistics, 2011). The largest ethnic groups are White British (65.4%), Asian Pakistani (5.5%), and Mixed White and Black Caribbean (4%).

The UoN is one of the leading universities in the UK which makes it an attractive choice for many international students to pursue their education. It has campuses in three countries: UK, China and Malaysia. Students at the School of Pharmacy are from various cultural backgrounds. The percentage of students in the UK campus from BAME groups in the School of Pharmacy for 2018/19 was 51% which was the highest percentage among other schools at the UoN (University of Nottingham, 2019). Students' characteristics in the first two years are different from the last two years due to the 2+2 programme, where students study for two years in the Malaysian campus and then join the UK campus for the final two years. Particularly, fourth year students in 2017/18, the target of this thesis, are from 25 countries. More than 50% of students are international students (Figure 11). Most international students (38%) in year 4 are from Malaysia because the UoN has a campus in Malaysia and some students enrol in the 2+2 programme where students study for the first two years in Malaysia then continue in Nottingham.

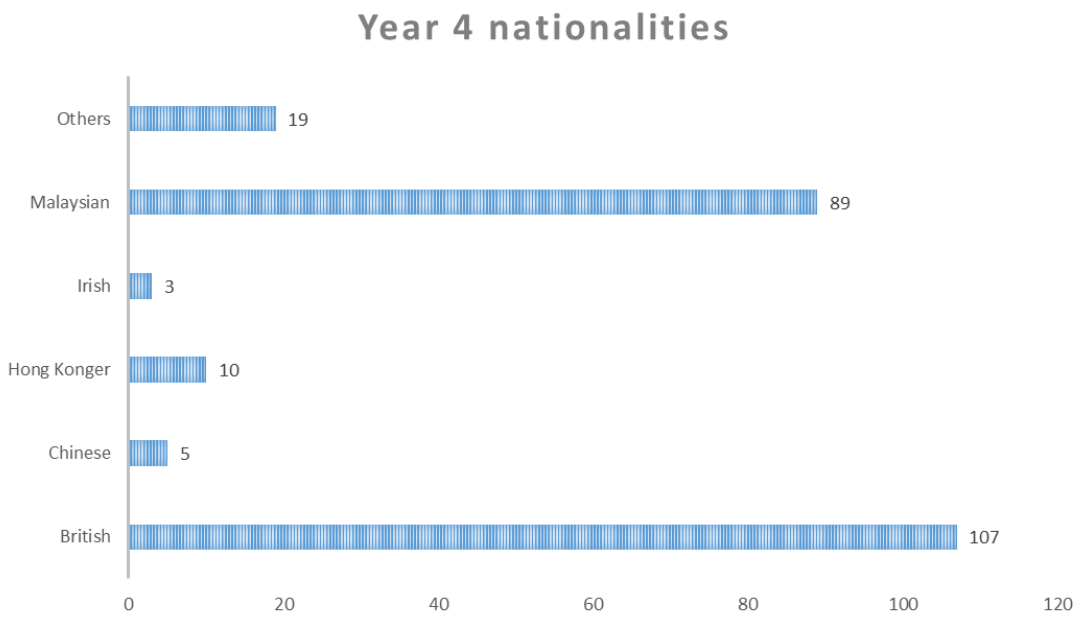

Figure 11. Nationalities of fourth year pharmacy students in 2017/18

The demographics of students in this study differ from other UK campuses. London hosts the majority of international students in the UK where around 20,000 international undergraduate students study at the University College of London in 2018/19 which makes it the largest host of international students (Higher Education Statistics Agency, 2020). The three largest ethnic groups of undergraduate students in the UK studying in the academic years 2018/19 and 2019/20 are White (74%), Asian (12%), and Black (8%) (Higher Education Statistics Agency, 2020). UK government aims to attract 600,000 international students by 2030 (Anonymous, 2019). Data about the demographics of pharmacy students in the UK are not published. However, the GPhC considers publishing data every year about assessment of pre-registration students broken down by the 9 protected characteristics of diversity (UK Government, 2010). Just above half of pre-registration trainees, in 2018/19, reported they were Asian (53%) while a quarter of them described themselves as White (25%), and 13% of them were identified as black (General Pharmaceutical Council, 2019). The impact of ethnicity on academic achievement is beyond the scope of this thesis and thus reporting these data is not relevant.

Comparing with students' statistics in the UK, students in this sample seem to be more culturally diverse than the average.

There is no formal requirement for the MPharm programme to include specific cultural training, however, there are requirements to fulfil patient-centred care, promote principles of equality, diversity and fairness, and fulfil relevant legal requirements, delivered in ways to ensure that the diverse students' needs are met (General Pharmaceutical Council, 2021).

Because the MPharm programme is offered in English, a certain level of English proficiency is required if English is not a student's native language. The school requires that students had completed a formal English assessment if they had studied their secondary education in the UK. If students completed their secondary education overseas, an IELTS score of 6.5 or more is required. IELTS stands for International English Language Testing System. It was developed by experts in Cambridge Assessment English to provide a reliable English proficiency assessment (IELTS, 2019). I discuss below the methods used and it should be mentioned that I conducted the research myself unless I mention support from others, such as piloting the tools with a small sample of colleagues.

3.5 Reflexivity

Reflexivity is a term used in the philosophy of science to consider the researcher's social values and worldviews, which impact the knowledge produced (Bryman, 2012; Creswell & Miller, 2000). It is recommended that researchers concentrate on understanding their impact rather than wasting time in attempts to avoid or eliminate it (Bazeley, 2013). I could affect the research in different stages, such as choosing the aims of the research, data collection, and interpretation of results. In engaging with the qualitative part of the research, it is not possible to completely avoid personal biases. Therefore, I discuss in this section how my characteristics may affect the interpretation by

discussing my identity, occupation, experiences, philosophical stance, and training. I explained how these factors could have affected my relationships with students and thus affect their responses. By describing my philosophical stance, I also considered my evolution as a researcher. By doing so, the credibility of the findings can be improved because this can show to the reader how my observations and interpretations can be influenced.

My previous education as a pharmacist was coming from one view of science, namely the positivist paradigm. At first, and to my surprise, I encountered many unfamiliar words in the literature on social issues, such as ontology, epistemology, axiology, agency, and social structure. I am aware that I moved from a pure positivist to a critical realist and being able to explicitly describe the learning process can reflect the evolution and personal development rather than assuming that these are the basics of qualitative research and everyone conducting research with a qualitative aspect should know them. My philosophical stance for science did not follow the Popperian school where a paradigm fails based on falsification principles that reject the theory following a single observation. I chose critical realism where greater explanatory power of the theory allows exploring various contexts that can explain why and how things work or not work. Explaining my learning process in this regard is intended to show that positivists may conduct research without even being aware of the paradigm they use and the role of theory. Critical realism seems to be relatively new in pharmacy research as topic experts in my field revealed that they had limited understanding about it. My discussions with positivist colleagues in the division showed me that they deny using any paradigm or theory in their research. Their comprehension of the nature of the paradigm is understandable for me as it is not common for positivists to write about the assumptions of the paradigm or to consider alternative paradigms. Most writing about the nature of the positivist paradigm were from qualitative researchers (Bryman, 1984). I am not elaborating on the qualitative and quantitative debate because I think we are beyond this debate as it flourished in 1970s (Bryman, 1984).

The two main challenges at the first stage were the description of the research problem in a way that makes it researchable, and choosing and understanding a paradigm that is consistent with the nature of the social research problem. For the first challenge, I consulted literature on psychology and sociology and it took me some time to gain familiarity with that and combine the theoretical understanding from the two disciplines and apply it to pharmacy education. At the beginning, I considered some questions and reviewed the literature to move in the appropriate direction. The questions I considered included: what is cultural diversity? What constitutes culture? What interpretations are associated with cultural differences? What are the biases associated with intercultural communication? What is considered appropriate and effective intercultural behaviour? How do students develop their ICC during formal education? What are the outcomes used in research? The literature guided my thinking and I did not consider areas where basic understanding of cultural diversity nature was lacking. The first point I thought about was how to define behaviour from a psychological point of view in general and how skills, knowledge, and attitude impact it. Moving deeper into sociology, I considered how contexts affect behaviour and the difference between studying it in a methodological individualistic way compared with a holistic way. Lacking formal training in psychology and sociology could present a limitation in my understanding. For the second challenge, I went through various stages, moving from positivism to constructivism. I then realised that relativism as a stance could raise an issue and that using mixed methods could not be justified using constructivism. In truth, it was necessary to justify mixed methods through a paradigm that is consistent with the mixed methods. In the literature, the mixed methods approach is consistent with both pragmatism and critical realism (Bazeley, 2013; Walker, 2009). Because of the lack of an ontological explanation of pragmatism, I adopted critical realism to link theory to practice. The approach that I follow to causality is based on the non-deterministic approach (Archer *et al.*, 1998; Ellaway, Kehoe, & Illing, 2020). This view differs from most logical, positivist approaches that are influenced by David Hume's view of causality (Chalmers, 2013). Taking the non-deterministic approach, I acknowledge that things can happen or not-happen

due to real, complex contexts that are directed by the causal power of mechanisms rather than limiting the explanation to factors that can be observed on the empirical level. Training provided by the university on the philosophy of science has influenced my thinking process and development in methodology.

As I am interested in students' development of CQ and the corresponding factors and contexts that can support cultural training, I consider questionnaires or interviews alone insufficient in providing understanding of what can work or not work for students and under which contexts. I aimed to explore the views of the final year pharmacy students and surveying students would allow the collection of a large number of data in the limited time. However, there are social aspects that can be explored through understanding experiences, meaning, views, reasoning, and decisions of students. Semi-structured interviews allow exploring this depth of knowledge. Thus, I used both tools (i.e. questionnaire and interview) for data collection.

My identity as a Muslim researcher had an impact on the data collection process, either during participants' recruitment or in conducting interviews. As mentioned in the methods section, I had to approach students face-to-face to enhance the recruitment process. In doing so, my identity, in the sense of having a symbol that represents my religion, could have affected how students made their judgments about participating in the study. Since it is difficult to say what motivated students to take part, I considered several possibilities. Some students showed no interest in the topic; others showed interest, but did not respond to calls, messages, or emails. Some students participated because of my identity as a Muslim; three students said "we wanted to help you as you are our sister"; one said "I will do it as a good deed". Being a Muslim, some students mentioned to me some Islamic terms in Arabic, such as "*ikhtilat*" to refer to forbidden mixing between genders, to describe their views as they could have felt that then their views would be respected. Students may hide information if they think their views or beliefs would make the other party think negatively about them.

During the interviews, how students perceived me could have had an impact on the information they provided. I am a lecturer in Saudi Arabia and I was aware how students may reveal or not reveal information to academics. As I was an outsider, some students were open to providing feedback on the appropriateness of some educational activities. The same information might not have been provided if I had been a staff member in the school. Students explicitly said they would not give negative feedback to academics even when they were asked to write it because they reported that they value the time spent by academics to prepare the sessions and would not like to annoy them. This might indicate that trust was successfully developed during interviews.

As analysing texts involves an interpretive aspect, the qualitative analysis could not, and should not, be purely neutral or objective (Bazeley, 2013; Bryman, 2012; Silverman, 2014). Drawing inferences from data using a retroductive way of reasoning allowed me to consult the literature to provide an explanation of the research problem. In this way, the explanation provided is not purely my “interpretative” understanding of the data. Moreover, data provided as opinions on peers’ performance were considered and double interpretations were treated differently if the data were provided by participants about themselves. Considering all these effects, I am aware of the limitations as well as the contributions I made. In my interpretation of data, I was mindful of the rationality thinking where I can see the contradictory views that need understanding from the participants’ perspective rather than having assumptions that confirm my stances. The typical example of rationality thinking in pharmacy research would be assuming the problem of non-adherence is related to patients not taking medications because of factors related to the patients. Thus, interventions are focused on educating patients to take their medications or fixing the patient rather than deeply understanding what suit patients to take medications and managing the medication regimen to be suitable for patients.

3.6 Chapter summary

This chapter has given a detailed explanation of decisions made in designing the research. Methodological choices were discussed and philosophical assumptions underpinning the methodological approaches were provided and justified. The findings of the questionnaires and semi-structured interviews are presented in the following two chapters.

Chapter 4. Cultural diversity in final year pharmacy students

4.1 Introduction

This chapter presents findings from the cultural diversity questionnaire given to final year pharmacy students as described in Chapter 3. The CQS was used to measure students' CQ and the cultural diversity questionnaire was used to gather data on intercultural contact, worldviews and cultural training. Descriptive statistics were used to report the quantitative data, obtained using a 7-point Likert scale where 1 corresponds to very strongly disagree and 7 corresponds to very strongly agree. Results of the open-ended questions were thematically analysed to identify the common themes. A discussion of findings and comparison to the literature is presented with the thesis discussion provided in Chapter 7.

4.2 Methods

To assess the students' level of cultural intelligence using a questionnaire and to understand their perceptions about their intercultural capabilities and the role of education, I had three options: adoption, adaptation or assembly (Dolnicar & Gruen, 2007; He & Van de Vijver, 2012; Van de Vijver & Leung, 1997). The first option, adoption, is widely chosen as it is relatively simple, quick, cheap, and usually has high face validity. Additionally, results can be compared with other findings. However, the limitation of this approach is that when the instrument used is in a different language it could be inadequate for some cultural groups. The second choice, adaptation, is widely used: here a tool is translated to another language or modified to suit a new cultural context. The last option, assembly, is preferred when there is no suitable tool for a certain cultural context. Thus, the aim is to combine selected aspects of different tools to meet the linguistic and cultural needs. I chose to mix all three of these options. I adapted the cultural intelligence scale (CQS) as it is validated in the English version and has been used in a similar setting (Harrison, 2012). By so doing, I was able to compare results with other studies

and help guide future research in this area. To investigate other social factors, eight questions used were adopted from the literature (Harrison, 2012) and I designed the rest of the questions to address the aims and objectives of the research. A detailed explanation is provided in the tool instruction section below, p.94.

4.2.1 Self-report tools

Self-report instruments can be suitable for capturing attitudes (Deardorff, 2009; Griffith & Converse, 2011). Although it is rare to find instruments that can assess the behavioural components (Deardorff, 2009), the CQS does assess the behavioural aspect of CQ. However, sole reliance on the use of self-report tools in assessing CQ presents many challenges. Most young students can have limited multicultural experience, so this could affect items assessing past experience as a factor affecting CQ (Harrison, 2012). Certain types of biases cannot be ruled out.

Although self-report tools may be used to measure attitudes, the possibility of faking behaviour could create an additional challenge. Respondents may report the idealistic way in response to interaction tendencies to make a good impression. Faking behaviours - or social desirability - could be reported intentionally or unintentionally (Bryman, 2012). According to Paulhus (1984), social desirability consists of two components: impression management (IM) and self-deceptive enhancement (SDE). IM is when respondents try intentionally to respond in ways that make them look good, whilst SDE is considered the unconscious form of reporting socially desirable answers that is linked to a positive outlook. Faking behaviour, whether it happens intentionally or unintentionally, presents a small threat to validity, as it introduces error variance, However, respondents may not all present the same extent of this error, so its impact on validity seems small, as the introduced variance is not related to the target construct (Griffith *et al.*, 2016). The possibility of reporting faking behaviour is estimated – through literature synthesis using statistical analyses, logical deduction, and simulations - to be 30% (±10%) (Griffith & Converse, 2011). Carter and Dunning (2008) reported

limited validity of using self-report tools in assessing knowledge, skills or competencies.

Another limitation of self-report measures is that they are static in nature, whereas intercultural encounters are dynamic and complex and need active behaviour, such as self-regulation and decision making (Deardorff, 2009). These challenges add to the commonly known limitations of self-report tools, such as the high risk of missing data, low response rate, inability to prompt or probe, and the difficulty in ensuring that all respondents answer questions in the same sequence without first reading the whole questionnaire, which may lead to the question order effect (Bryman, 2012).

However, self-report tools have many advantages that make them a good choice for collecting data. Questionnaires are free from the interviewer effect (i.e. when respondents read and answer questions themselves, the possibility of answering sensitive questions is high and the tendency to give socially desirable answers is less than in interviews). Other strengths of using self-report tools are related to practical aspects, as they are quick to administer, cheap, and convenient for respondents (i.e. they can complete them at their own pace) (Bryman, 2012).

4.2.2 Tool construction

As described earlier the questionnaire was constructed using adapted, adopted and additional constructed questions. I considered using the CCCQ as a tool for data collection because it is the most commonly used tool in pharmacy education. However, I chose not to use the tool because it lacks a sound theoretical basis. The designed questionnaire consisted of two sections and 60 items where 8 items were adapted and the rest were designed (Appendix 5). The first section has the adapted version of the cultural intelligence scale (CQS) to measure students CQ. Considerations have been given to adding some specific questions to my setting in the CQS or removing some questions. However, I decided against this because the tool was designed and validated to measure the CQ level (Ang *et al.*, 2007). Therefore, there were only minor amendments done to the tool to maintain its validity in

measuring CQ and the intact CQS was used to provide a valid measurement of CQ. Moreover, I added the specific questions to the questionnaire to add insights of the context as explained in the following paragraphs. Some phrases and spellings in the original scale were changed to British English. Two phrases (in questions 15 and 18) were changed to British English. The phrases were “accustomed to” which was changed to “adapted to” and “rate of my speaking” that was changed to “speed of my speech”. One phrase (in question 17) was changed from singular to plural (pause and silence). There were only two spellings that were changed from American English to British English (in questions 10, 12, 16, and 19). The spellings in “behavior” and “socialize” were changed to “behaviour” and “socialise”. The CQS has high predictive validity for work performance, decision making, and high construct equivalence: that is, it measures the same construct in different cultures to allow comparability (Ang & Van Dyne, 2008). This adds to the above mentioned strengths of adopting the instrument. The CQS is pre-validated and the changes done in this study were minimal and were unlikely to affect the scale.

The second section of the questionnaire covered four parts: 1) socio-demographic data, 2) intercultural contact, 3) students’ worldview, and 4) cultural training (Table 6). The first part includes standard socio-demographic questions. These items aimed at gathering the following variables: age, gender, home country, ethnicity, religion, study programme, speaking English as a first language, speaking other languages and the spoken language with family. Ethnicity and religion categories were taken from the UK census (Office for National Statistics, 2011). The rest of the questions were designed to collect the required variables. At an early stage of the research, socio-economic status was considered. Thus questions 32 and 33 were added to capture it. However, as the theoretical framework of the project was developed and finalised, the socio-economic status was not included and therefore was not analysed. This variable was the only variable that was collected and not analysed.

Table 6. Structure of the cultural diversity questionnaire

Section/part	Category	Sub-category No. of items	Question number in the questionnaire
1	Cultural intelligence (CQS)	20 items	1 - 20
2-1	Demographics	1. Age 2. Gender 3. Ethnicity 4. Religion 5. Home country 6. Study programme 7. Speaking English as first language 8. Speaking more than one language 9. Spoken language with family	21 22 23 24 25 26 27 28 29 30 31
2-2	Intercultural contact	1. Living abroad 2. Country of secondary school 3. Sharing accommodation with people from different cultures 4. Growing up in large cities 5. Studying in culturally diverse school 6. Spending time with people from similar culture at school 7. Social group is from similar culture 8. Experiences with people from different cultures (positive, negative) 9. Confidence in participating in class discussion due to the language	34 38 30 31 48 47 45 43 52 53
2-3	Worldviews	1. Tendency to avoid socialising with students who speak a different language to them 2. Preference of doing things people from one's culture 3. Thinking their ethnic group is better than others	49 50 51
2-4	Cultural training	1. Need to include materials on global health issues 2. Need for more activities to work with people from different cultures 3. Need for more activities to engage with students from different cultures 4. Format of training 5. Focus of the training 6. Reasons for why students need further cultural training	35 36 37 39 40 54 56 57 58 59

The second part was about intercultural contact and covers nine items. These items were to capture the prior experiences of intercultural contact as well as current experiences. Students were asked if they currently share their accommodation with people from different cultures. Country of secondary school was used as an indicator of prior academic experiences. The extent of intercultural contact was assessed by the living abroad experiences. Students were asked to rate their agreement with seven sentences on intercultural contact. These statements are: 1) I grew up in a large city, 2) my school was ethnically diverse, 3) at school, I mainly spent time with people from my own culture, 4) my social group is mainly from the same culture as me, 5) my experiences of people from different cultural backgrounds are positive, 6) I do not feel confident to participate in class discussion because of my language skills, and 7) where I grew up is a very multicultural area. I developed the fifth statement and the other six statements were adapted from a previous UK study (Harrison, 2012).

The third part captured students' worldviews as a component of ICC. Three items were used as indicators of worldviews. The first two statements were adapted (Harrison, 2012) and the third statement was designed. A 7-point Likert scale was used to explore students' agreement on the statements. These statements are: 1) I do not believe that my cultural or ethnic group is better than any other, 2) in general, I prefer doing things with people from my culture rather than with people from different cultures, and 3) I avoid socialising with students who speak a different language to me.

In the final part, the students' opinion on cultural training were explored using ten items. Students were asked about their opinion of inclusion of cultural training. Open questions were used for students to provide their opinion on advantages and disadvantages of working with students from different cultures. Suggestions on preferred focus and format of cultural training were sought in open questions as well. The final question of the questionnaire was for students to provide any comments or suggestions they may have.

4.2.3 Piloting

The piloting aimed at testing the face validity of the questionnaire, and amending items based on the comments provided. The British version of the CQS (first section) was administered to five PhD students, two of whom were native speakers, while the other three speak English as a second language, and to a qualified English translator, who has a good understanding of meaning and phraseology in English.

The designed questionnaire was sent to 74 recently graduated pharmacy students in October 2017 through email (Appendix 6). A final question was added to ask them for their feedback and to highlight any issues they had encountered in answering the questionnaire. Out of 74, five students (7%) completed the questionnaire. Seven students (9%) were screened out due to a mistake in the online survey. Unfortunately, students who were screened out could not reach the final question to add their issue and they did not contact me to raise the issue. At this stage, I was not aware of this, as it was the first use of the Jisc (formerly Bristol Online Survey (BOS)) website.

4.2.4 Sampling

An email containing a personalised link to the questionnaire was sent to all 241 final year MPharm students, for the academic year 2017/18, in December 2017. The Jisc tool was used to design the online questionnaire and track personalised responses. Seven weekly reminders were sent. Jisc allows sending of up to five reminders, and the other two emails were sent using the mail-merge option in Microsoft Word.

4.2.5 Data analysis

Data was exported from Jisc to Microsoft Excel. General data checking and coding were done on Microsoft Excel. Data were then exported to IBM SPSS Statistics version 24 to conduct descriptive statistics. Frequency tables were produced. Since data were not normally distributed, non-parametric tests were used to detect statistically significant differences. The Mann-Whitney U test was used to compare means from two data groups. Comparison of other variables which had more than two groups was done using the Kraskal-Wallis

test. The Mann-Whitney U test is the non-parametric test that is equivalent to an independent *t*-test and is used to compare differences for ordinal variables (Bland, 2015). It is rank-based which means the data in each group is ranked from lowest to highest scores. For example, if we investigate whether the CQ level differs significantly between male and the male students, we rank the CQ level of male students and the CQ level of female students. The result of the test depends on the number of times a score from male group is higher than scores from the female group. The sum of ranks for each group (R_1 and R_2) is calculated and divided by the sample size of each group to yield the mean rank (i.e. R_1/n_1 and R_2/n_2) and the resulting values are used to infer which group is presenting the significantly higher value. The SPSS compares the readings using the following equation:

$$U = n_1 n_2 + \frac{n_2(n_2 + 1)}{2} - \sum_{i=n_1+1}^{n_2} R_i$$

Where U = Mann-Whitney U test, n_1= sample size of the first group, n_2= sample size of the second group, and R_i= rank of the sample size.

Results of open-ended questions were analysed thematically. Results of the statistical tests were considered statistically significant if the p-value was less than 0.05. Median and interquartile range (IQR) were reported because the dataset were not normally distributed. Additionally, means and standard deviation were used to compare the data to the literature. Variables that have groups of small numbers were grouped together based on the common feature for analysis. For example, ethnicity had 11 groups and all of them were further grouped into three groups (i.e. White, Asian, and other ethnicities). Data that were gathered using a Likert scale were grouped into three categories (i.e. agree, not decided or neutral, and disagree) during the analysis. The choice of grouping them was for enhancing the clarity of reporting findings as the sample size was relatively small and each group has few responses. However, data were presented as they were collected by the 7-point Likert scale questions in Appendix 5.

4.3 Results

Overall, 98 students completed the online questionnaire. The response rate was 40% despite sending seven reminders. The questionnaire was left open for two months, from 8 December 2017 until 9 February 2018. Demographic data collected in the study includes; age, gender, home country, ethnicity, religion, study programme, speaking English as a first language, spoken language(s) with family, and other spoken languages (Table 7).

The students were between the ages of 21 and 25, and 80% (n = 77) were female. Students who completed the questionnaire were from ten countries. Most were from the UK (n = 44, 45%) and Malaysia (n = 37, 38%). A small numbers of students (n = 15, 15%) were from Hong Kong (n = 6, 6%), Indonesia (n = 2, 2%), Kenya (n = 2, 2%), Cyprus (n= 1, 1%), Egypt (n = 1, 1%), Nigeria (n = 1, 1%), Singapore (n = 1, 1%), and Zimbabwe (n = 1, 1%).

In terms of ethnicity, the majority of the sample were from an Asian background (n= 62, 64%), 29% (n = 28) were White, and 7% (n = 7) were from other ethnicities. The ethnicity question was adapted from the UK census. However, Pakistani, Indian, Chinese and other Asian backgrounds were grouped under Asian, in the analysis stage, due to the small number in some categories. The majority of Asian students were Chinese (n = 28, 29%), other Asian backgrounds include Malay (n = 15, 15%), Indonesian (n = 1, 1%), and Vietnamese (n = 1, 1%), Sri Lankan (n = 1, 1%), Nepalese (n = 1, 1%) and Filipino (n = 1, 1%). Only 6% (n = 6) were Indian and 3% (n = 3) were Pakistani. Five students who reported having other Asian backgrounds did not provide their ethnicity in the box under this question. The other ethnicities reported were African, Arab, Kurdish and Turkish.

Table 7. Demographic characteristics of respondents (n = 98)

Variable	**N**	**%**
Age (n = 96)		
21	21	22
22	42	43
23	26	28
24	6	6
25	1	1
Gender (n = 96)		
Male	19	20
Female	77	80
Home country (n = 96)		
UK	44	46
Malaysia	37	39
Others	15	15
Ethnicity (n = 96)		
White	28	29
Asian	61	64
Others	7	7
Religion (n = 93)		
No religion	19	21
Have a religion	58	64
Study programme (n = 97)		
UK-based programmes	61	63
2+2 programme	36	37
Speaking English as a first language (n = 92)		
Yes	44	48
No	48	52
Speaking any other language than English (n = 95)		
Yes	68	72
No	27	28
Spoken language with family (n = 91)		
English	33	36
Other languages (mother language)	38	42
English + other language(s)	20	22

The majority of students (n = 58, 64%) reported having a religion and the rest (n = 35, 37%) reported having no religion. The largest religious group within respondents (n = 30, 32%) was Christian. Twenty-five per cent of students (n = 25) were Muslim and 21% (n = 19) of students reported having no religion. The remaining students (22%, n = 21) were Buddhist (n = 14, 15%), Hindu (n = 3, 3%), Sikh (n = 3, 3%), and Jain (n = 1, 1%).

Most students (n = 61, 63%) were registered on the four-year MPharm programme where they study four years on a UK campus. Thirty-seven per

cent (n = 36) were on the 2+2 programme and only two students (2%) from a five-year MPharm programme. Due to the small number in the five-year MPharm programme, it was combined with the four-year programme to represent UK-based programmes in the analysis.

Around half of the students (n = 48, 52%) reported speaking English as an additional language. Just over a quarter of the sample (n = 27, 28%) speak only English with no other languages. English was spoken at home with other language(s) for 22% (n = 20) of students and 36% (n = 33) used English only at home.

4.3.1 Intercultural contact of the sample

Results of the second section of the cultural diversity questionnaire were reported as they were collected in a 7-point Likert scale in Appendix 10 (Table 32). Almost half of students (n = 47, 49%) grew up in large cities (Table 8). Just over half of the sample (n = 52, 55%) had studied in ethnically diverse schools. The majority (n = 64, 67%) had spent time mainly with people from their own culture at school. Most students (n = 64, 67%) reported that their social group is mainly from their own culture. Although the vast majority of students (n = 86, 90%) reported positive experiences with people from different cultures, some (n = 3, 3.1%) reported negative experiences. Approximately half of the students participating in the study (n = 52, 54%) responded that they had not lived abroad. Half of the students participating in this study had completed their secondary education in the UK (n = 48, 50%). The other half had completed their secondary education overseas. The majority (n = 55, 59%) of the sample did not share their accommodation with people from different cultures. More than a quarter of students (n = 26, 27%) do not feel confident in participating in class discussion due to their language skills.

Table 8. Intercultural contact of the sample (n = 98)

Statement	**Disagree**	**Not decided**	**Agree**
	N (%)	**N (%)**	**N (%)**
I grew up in a large city (n = 96)	41 (43)	8 (8)	47 (49)
My school was ethnically diverse (n = 96)	49 (51)	7 (7)	40 (42)
At school, I mainly spent time with people from my own culture (n = 96)	26 (27)	6 (6)	64 (67)
My social group is mainly from the same culture as me (n = 96)	34 (35)	2 (2)	60 (63)
My experience of people from different cultural backgrounds are positive (n = 96)	3 (3)	7 (7)	86 (90)
I do not feel confident in participating in class discussion due to my language skills (n = 96)	63 (66)	7 (7)	26 (27)
Do you currently share your accommodation with a person from a culture different to yourself? (n = 94)	Yes 39 (42)	No 55 (59)	
Have you ever lived in any country/countries other than your home country? (n = 96)	Yes 44 (46)	No 52 (54)	
Where did you complete your secondary school education? (n = 96)	UK 48 (50)	Overseas 48 (50)	

When students were asked to suggest what they think is advantageous when they work with students from different cultures, they had several responses that are thematically analysed and presented in Table 9. Additionally, students reported some drawbacks with working with students from different cultures.

Table 9. Advantages and disadvantages of working with students from different cultures

Advantages		
Theme	**No. of respondents (n = 82)**	**%**
Expanding knowledge (learning from each other)	47	57
Stimulating critical thinking	14	17
Improving communication skills	8	10
Developing the needed skills for future	8	10
Making friends	3	4
Improving confidence	2	2
Disadvantages		
Theme	**No. of respondents (n = 82)**	**%**
Language barrier	22	29
Communication-related issues	21	28
Misunderstanding	7	9
Disagreement	7	9
No disadvantage	7	9
Negative students' attitude	5	7
Lack of confidence	4	5
Being inferior	4	5
Negative impact on group work	4	5
Integration issues	3	4
Worried to cause offence	3	4
Different work ethics	3	4
Culture shock	2	3

4.3.2 Worldviews of students

Three items were used as indicators of ethnocentrism (Table 10). Some students (n = 14, 15%) reported that they tend to avoid socialising with students who speak a different language to them. More than one third of the sample (n = 41, 43%) prefer to do things with people from their own culture. A small group of students (n = 5, 5%) reported that they think their cultural or ethnic group is better than others. These findings were taken further in interviews for better understanding.

Table 10. Worldviews of the sample (n = 98)

Statement	Disagree N (%)	Not decided N (%)	Agree N (%)
I do not believe that my cultural or ethnic group is better than any other	5 (5)	7 (7)	83 (88)
In general, I prefer doing things with people from my own culture rather than with people from different cultures	41 (43)	23 (24)	32 (33)
I avoid socialising with students who speak a different language to me	71 (74)	11 (11)	14 (15)

4.3.3 Opinions on cultural training

The majority of students (n = 78, 81%) reported that curricula should include materials on global health issues. Just above three quarters of the sample (n = 74, 78%) agreed that they would like to have more activities to engage with students from different cultures. Just under half of students (n = 42, 44%) think there is a need for training to work with students from different cultural backgrounds. When students were asked about the preferred format, the greatest agreement (n = 39, 49%) was on workshops.

Students who think more activities are needed to develop their skills were asked to provide their opinion on the focus and format of the training in open questions. Thematic analysis of the results regarding the focus of the training revealed the following themes:

- Knowledge of certain cultures (n = 34, 44%): “knowledge about certain cultures and how a person is supposed to behave within different cultures”

- Communication-focused (n = 23, 30%): “Expectations in communication definitely, and that should include both ways”
- Others (n = 20, 26%):
    - Practices that impact teamwork, for example, prayers: “Things that may affect team dynamics such as fasting affecting energy and the need to take breaks to pray”
    - Language skills: “Basic language skills of our language”
    - Knowledge about medications or health-related issues: “Understanding the intricacies of certain cultures and how this can influence patient care”
    - Trips abroad: “Group trip to other countries. Learning other cultures. Get together activities”
    - Enhance relationships between students: “let local/other group know that we like to be friends but just don't know how to”, “I would love it. I would like to prove to people from other cultures that it is not that hard to talk to me”

Thematic analysis of the format of the suggested educational intervention produced the following themes:

- Workshop (n = 39, 49%)
- Guest speaker(s) (n = 26, 33%)
- Others (n = 16, 18%)
    - Mixture of workshop and guest speakers
    - Buddy system
    - Conferences, showcase
    - Voluntary activities
    - Games

Students stated the following reasons for the perceived need/no need for further training. Reasons for the need of cultural training were categorised in the two themes below (n = 41, 60%):

- Need for gaining cultural knowledge (familiarity, better understanding, to be friendly): “make me more aware of people's

backgrounds and ensure I don't offend them by using for example gestures which are fine in England, but offensive in another culture".

- Need for acquiring cultural skills (language, respect, avoid embarrassing people, confidence, broaden horizon, adaptation): "I would like to ensure that I am respectful to my peers"

Students, who thought there was no need for cultural training (n = 25, 37%), reported the following reasons:

- It is a skill that needs to be acquired by practice: "I think you can learn on the job rather than having particular training".
- Perceiving to have enough knowledge and skills from previous experience: "I've lived in a diverse community for most of my life and have changed living conditions and communities frequently. I think I am already capable of quick adaptation to different cultures".
- Having no issue in the course: "Have worked with students on group projects without issues".

4.3.4 The cultural intelligence scale (CQS)

Results of the scores of the four CQ factors are reported in Table 11. Since each factor of CQ includes four to six statements that used a 7-point Likert scale, the mean was calculated for each factor. Descriptive statistics for each factor were presented by the mean and standard deviation. The mean of the overall CQ was not calculated in the original study (Ang *et al.*, 2007), but some studies in the literature used its mean (Abdien & Jacob, 2018; Eisenberg *et al.*, 2013; Göl & Erkin, 2019). So, this thesis presents the mean of the overall CQ in order to allow comparison. Results of each statement in the CQS are reported in Appendix 10 (Table 31). The reliability of the CQS in this study was good (Cronbach's alpha = 0.91), and the CQS was pre-validated across time, place, and samples (Ang *et al.*, 2007).

Table 11. Descriptive statistics of CQ and its factors (n = 98)

Variable	Mean	Standard deviation
Metacognitive CQ (n = 98)	5.16	0.97
Cognitive CQ (n = 97)	3.96	1.14
Motivational CQ (n = 96)	4.98	0.86
Behavioural CQ (n = 96)	5.13	0.92
CQ (n = 98)	4.76	0.74

Measured on a 7-point Likert scale (1 to 7)

4.3.5 Comparisons between groups

The results of the analysis of 11 variables are presented in this section. The Mann-Whitney U test was used to compare two groups of data and Kruskal-Wallis was used to compare the data of three groups. Statistically significant results are presented with a star symbol (*).

Gender

The Mann-Whitney U test indicated that there were no statistically significant differences between male and female students for the overall CQ and its four factors (Table 12).

Table 12. Comparative analysis of gender and CQ (n = 96)

Variable	Mann-Whitney U	*p*-value	Male n= 19			Female n= 7		
			Mean rank	Median	IQR	Mean rank	Median	IQR
Metacognitive CQ	644	0.42	53.1	5.2	2	47.4	5	1
Cognitive CQ	601	0.23	55.39	4.3	2	46.8	3.8	1.3
Motivational CQ	649	0.44	52.9	5	0.8	47.4	5.2	0.8
Behavioural CQ	683	0.65	45.9	5	1.2	49.1	5	1.2
Overall CQ	610	0.26	54.9	5	1.1	46.9	4.6	0.7

Ethnicity

The Kruskal-Wallis test showed that there were statistically significant differences in cognitive and overall CQ between students from White, Asian, and other ethnicities groups (chi-square values for cognitive and overall CQ were 19.5, and 14.94, respectively. The p-value for cognitive and overall CQ were < 0.001, and 0.001 respectively). The mean rank of cognitive CQ for White students (29.6) was significantly lower than that of Asian students (57.6) and students who reported having other ethnicities (45) (Table 13). The mean rank of CQ for White students (31.4) was significantly lower than for Asian students (55.2) and students who reported having other ethnicities (58.1)

Table 13. Comparative analysis of ethnicity and CQ (n = 97)

Variable	χ^2	***p*-value**	**White n=28**			**Asian n= 62**			**Other n= 7**		
			Mean rank	Median	IQR	Mean rank	Median	IQR	Mean rank	Median	IQR
Metacognitive CQ	5.56	0.06	38.2	5	0.8	52.4	5.3	1.3	55.9	5.8	4.5
Cognitive CQ	19.5	<0.001*	29.6	3.3	0.8	57.6	4.2	1.3	45	3.7	2
Motivational CQ	3.26	0.20	40.6	4.8	0.9	51.6	5	0.8	53	5	1.4
Behavioural CQ	1.73	0.42	45.2	5	1	48.6	5.2	1.2	60.6	5.8	1.2
Overall CQ	14.94	0.001*	31.4	4.4	0.4	55.2	4.8	1	58.1	5.1	0.8

Religion

A Mann-Whitney U test showed that there was a statistically significant difference in cognitive CQ (Mann-Whitney U = 540, p = 0.001) between students who reported having no religion (mean rank = 33.4) compared to those who had (mean rank = 53) as shown in Table 14. The mean rank of the overall CQ was significantly higher for students who reported to have a religion (51.1) than those who had not (36.9) (U = 659, p = 0.014

Table 14. Comparative analysis of religion and CQ (n = 93)

Variable	**Mann-Whitney U**	***p*-value**	**No religion n= 35**			**Had religion n= 58**		
			Mean rank	median	IQR	Mean rank	median	IQR
Metacognitive CQ	787	0.16	40.9	5	1	48.9	5.3	1.3
Cognitive CQ	540	0.001*	33.4	3.5	1.3	53.2	4.1	1.5
Motivational CQ	845	0.35	42.6	4.8	0.6	47.9	5	1
Behavioural CQ	873	0.49	43.5	5	1	47.5	5.2	1.3
Overall CQ	659	0.014*	36.9	4.6	0.6	51.1	4.8	1.1

Living abroad

A Mann-Whitney U test showed that there was a statistically significant difference in behavioural CQ (Mann-Whitney U = 876.5, p = 0.048) between students who had lived abroad (mean rank = 54.58) compared to those who had not (mean rank = 43.36) (see Table 15).

Table 15. Comparative analysis of living abroad and CQ (n = 96)

Variable	**Mann-Whitney U**	***p*-value**	**Had lived abroad n= 44**			**Had not lived abroad n= 52**		
			Mean rank	Median	IQR	Mean rank	Median	IQR
Metacognitive CQ	1083	0.65	49.9	5.3	1.2	47.3	5	1
Cognitive CQ	1074	0.60	50.1	4	1.5	47.1	4	1.6
Motivational CQ	1102	0.75	47.5	5	0.8	49.3	5	1
Behavioural CQ	877	0.048*	54.6	5.2	0.8	43.4	5	1.2
Overall CQ	993	0.27	51.9	4.8	0.8	45.6	4.6	0.71

Speaking English as a first language

The Mann-Whitney U test showed that there was a statistically significant difference in the mean ranks of the cognitive CQ between those who speak English as a first language and those who do not (Table 16). Students who speak English as an additional language showed higher mean rank than those who speak English as a first language (Mann- Witney U = 629, p = 0.001).

Table 16. Comparative analysis of speaking English as a first language and CQ (n= 92)

Variable	**Mann-Whitney U**	***p*-value**	**English is first language n= 44**			**English is not first language n= 48**		
			Mean rank	Median	IQR	Mean rank	Median	IQR
Metacognitive CQ	874	0.15	42.4	5	1.2	50.3	5.3	1.2
Cognitive CQ	629	0.001*	36.8	3.5	1.5	55.4	4.2	1.3
Motivational CQ	1026	0.81	45.8	5	1	47.1	5	0.8
Behavioural CQ	1018	0.77	47.3	5.2	1.2	45.7	5.2	1.4
Overall CQ	808.5	0.053	40.9	4.6	0.7	41.7	4.9	1

Speaking other language(s)

The mean of cognitive CQ was significantly higher for students who speak more than one language (mean rank = 53.49) than for students who do not (mean rank = 34.19), (Mann-Whitney U = 545, p = 0.002) (Table 17).

Table 17. Comparative analysis of speaking other languages and CQ (n = 95)

Variable	**Mann-Whitney U**	***p*-value**	**>1 language n= 68**			**1 language n= 27**		
			Mean rank	Median	IQR	Mean rank	Median	IQR
Metacognitive CQ	879	0.75	48.6	5.1	1.2	46.6	5	1
Cognitive CQ	545	0.002*	53.5	4.1	1.3	34.2	3.3	1.5
Motivational CQ	823	0.43	49.4	5	1	44.5	4.8	0.6
Behavioural CQ	903	0.90	47.8	5.2	1.2	48.6	5.2	1.2
Overall CQ	689	0.058	51.4	4.8	0.9	39.5	4.5	0.4

Spoken languages with family

Students who speak English with their families showed significantly lower mean rank for cognitive and overall CQ (33.4, 37) than their peers who communicate with their families in their native minority language or a combination of English and their native minority language (Table 18). Students who communicate in more than one language with their families showed a

higher mean rank of behavioural CQ (59.8) than students who communicate in just one language.

Table 18. Comparative analysis of spoken languages with family and CQ (n= 91)

Variable	χ^2	*p*-value	English n= 33			Native minority language n= 38			English + native minority language n= 20		
			Mean rank	Median	IQR	Mean rank	Median	IQR	Mean rank	Median	IQR
Metacognitive CQ	2.1	0.35	40.9	5	1	48.2	5.3	0.8	50.4	5.6	1.5
Cognitive CQ	12.3	0.002*	33.4	3.5	1.3	54.8	4.1	1.4	50	4.3	1.8
Motivational CQ	2.5	0.28	42.6	4.8	0.6	44.7	5	0.7	54.1	5.2	1.2
Behavioural CQ	7.2	0.028*	43.5	5	1	41	5	1.5	59.8	5.6	1
Overall CQ	7.6	0.022*	37	4.6	0.6	48	4.7	1.1	57.2	5	0.9

Living in shared accommodation with people from different cultures

The Mann-Whitney U test indicated that there were statistically significant differences in mean behavioural CQ between students who shared their accommodation with people from different cultures (mean rank = 54.51) and those who do not (mean rank = 43.53), (Mann-Whitney U = 799, p = 0.035) (Table 19).

Table 19. Comparative analysis of sharing accommodation with people from diverse backgrounds and CQ (n = 94)

Variable	Mann-Whitney U	*p*-value	Shared accommodation n= 39			Not shared accommodation n= 55		
			Mean rank	Median	IQR	Mean rank	Median	IQR
Metacognitive CQ	895	0.17	52.1	5.3	1.3	44.3	5	1
Cognitive CQ	892	0.16	52.1	4	1.5	44.2	3.8	1.3
Motivational CQ	957	0.37	50.5	5	1	45.4	5	1
Behavioural CQ	799	0.035*	54.5	5.2	1.2	42.3	5	1.2
Overall CQ	798	0.035*	54.5	4.8	1	42.5	4.6	0.7

Home country

A Kruskal-Wallis test showed that there were statistically significant differences in mean rank of cognitive and overall CQ between students from the UK, Malaysia, and other countries (chi-square = 14, p = 0.001) (Table 20). The mean rank of cognitive CQ for students who identified their home country as the UK (37.3) was lower than that of students from Malaysia (60.2), and other countries (52.7). Malaysian students were found to have the lowest mean rank (40) of behavioural CQ compared to students from the UK (50.4) and other countries (64) (chi-square = 8.3, p = 0.016). Students who are from other countries than the UK and Malaysia showed the highest mean rank (62.3) of the overall CQ compared to students from the UK (40.8) and Malaysia (52) (chi-square = 7.6, p = 0.022).

Table 20. Comparative analysis of home country and CQ (n= 96)

Variable	χ^2	***p*-value**	**UK n=44**			**Malaysia n=37**			**Other n=15**		
			Mean rank	Median	IQR	Mean rank	Median	IQR	Mean rank	Median	IQR
Metacognitive CQ	5.8	0.05	42.5	5	1	50	5.3	1	62.2	5.5	1.3
Cognitive CQ	14	0.001*	37.3	3.5	1.4	60.2	4.2	1.1	52.7	4.7	1.7
Motivational CQ	0.85	0.655	46.1	5	0.8	49.4	5	0.7	53.4	5	1.2
Behavioural CQ	8.3	0.016*	50.4	5.2	1.2	40	5	1.2	64	5.8	1.2
Overall CQ	7.6	0.022*	40.8	4.5	0.5	52	4.8	0.9	62.3	5	1.1

Study programme

The Mann-Whitney U test indicated that there was a statistically significant difference in mean cognitive CQ between students who joined the 2+2 programme (mean rank = 61.5) and those who studied in UK-based programmes (mean rank = 41.6). (Mann-Whitney U = 649, p = 0.001) (Table 21).

Table 21. Comparative analysis of programme of study and CQ (n= 97)

Variable	**Mann-Whitney U**	***p*-value**	**UK-based n= 61**			**2+2 n= 36**		
			Mean rank	Median	IQR	Mean rank	Median	IQR
Metacognitive CQ	1040	0.66	48	5	1	50.6	5.3	1
Cognitive CQ	649	0.001*	41.6	3.6	1.5	61.5	4.2	1.2
Motivational CQ	1012	0.67	47.6	5	0.8	50	5	0.8
Behavioural CQ	813	0.05	52.7	5.2	1	41.2	5	1.2
Overall CQ	926	0.20	46.2	4.6	0.8	53.8	4.8	0.9

Country of secondary education

There was a statistically significant difference in the mean ranks of the cognitive CQ between those who completed their secondary education in the UK and those who did it overseas as shown by the Mann-Whitney U test (Table 22). Students who completed their secondary education overseas showed a higher mean rank than those who completed their secondary education in the UK (Mann-Witney U = 717, p = 0.001).

Table 22. Comparative analysis of country of secondary education and CQ (n = 96)

Variable	Mann-Whitney U	p-value	UK n= 48			Overseas n= 49		
			Mean rank	Median	IQR	Mean rank	Median	IQR
Metacognitive CQ	997	0.25	45.3	3.5	1	51.7	5.3	1.2
Cognitive CQ	717	0.001*	39.4	3.5	1.6	57.6	4.2	1.2
Motivational CQ	1130	0.87	48	5	0.8	48.9	5	0.8
Behavioural CQ	946	0.13	52.8	5.2	1.2	44.2	5.1	1.2
CQ	934	0.11	43.9	4.6	0.8	53.1	4.8	0.9

Summary of findings

A summary of significant findings is presented in Table 23. Metacognitive and motivational CQ did not differ significantly with the assessed variables. The median and interquartile range (IQR) of key findings are presented in Table 24.

Table 23. Summary of findings

CQ factor	Associated factor	p-value	Mean ranks for CQ factors		
Metacognitive	NA	NA	NA		
Cognitive	English as first language	0.001	Yes: 36.8		No: 55.4
	Speaking additional languages	0.002	Yes: 53.5		No: 34.2
	Country of secondary education	0.001	UK: 39.4		Overseas: 57.6
	Religion	0.001	No religion: 33.4		Had a religion: 53.2
	Study programme	0.001	UK: 41.6		2+2: 61.5
	Spoken language with family	0.002	English: 33.4	Native minority language: 54.8	English + another language: 50
	Home country	0.001	UK: 37.3	Malaysia: 60.2	Other: 52.7
	Ethnicity	<0.001	White: 29.6	Asian: 57.6	Other: 45
Motivational	NA	NA	NA		
Behavioural	Living abroad	0.048	Yes: 54.6		No: 43.4
	Shared accommodation	0.035	Yes: 54.5		No: 42.3
	Spoken language with family	0.028	English: 43.5	Native minority language: 41	English + another language: 59.8
	Home country	0.016	UK: 50.4	Malaysia: 40	Other: 64

CQ factor	Associated factor	p-value	Mean ranks for CQ factors		
Overall CQ	Shared accommodation	0.035	Yes: 54.5		No: 42.5
	Religion	0.014	No religion: 36.9		Had a religion: 51.1
	Spoken language with family	0.022	English: 37	Native minority language: 48	English + another language: 57.2
	Ethnicity	0.001	White: 31.4	Asian: 55.2	Other: 58.1
	Home country	0.022	UK: 40.8	Malaysia: 52	Other: 62.3

NA: not applicable

Table 24. Median and IQR for the significant findings

Variable	Median	IQR
Metacognitive CQ	5	1
Cognitive CQ	4	1.5
Motivational CQ	5	0.8
Behavioural CQ	5.2	1.2
Overall CQ	4.7	0.8
Cognitive CQ		
English as first language	3.5	1.5
English not a first language	4.2	1.3
Speaking additional language	4.1	1.3
Not speaking additional languages	3.3	1.5
Country of secondary education (UK)	3.5	1.7
Country of secondary education (overseas)	4.2	1.2
No religion	3.5	1.3
Had a religion	4.1	1.5
UK programme	3.6	1.5
2+2	4.2	1.2
Spoken language with family		
English	3.5	1.3
Native minority language	4.1	1.4
English + another language	4.3	1.8
Home country (UK)	3.5	1.4
Home country (Malaysia)	4.2	1.1

Home country (other)	4.7	1.7
White	3.3	0.8
Asian	4.2	1.3
other	3.7	2
Behavioural CQ		
Living abroad	5.2	0.8
Not living abroad	5	1.2
Shared accommodation	5.2	1.2
Not shared accommodation	5	1.2
Home country (UK)	5.2	1.2
Home country (Malaysia)	5	1.2
Home country (other)	5.8	1.2
Spoken language with family		
English	5	1
Native minor language	5	1.5
English + another language	5.6	1
Overall CQ		
Shared accommodation	4.8	1
Not shared accommodation	4.6	0.7
White	4.4	0.4
Asian	4.8	1
other	5.1	0.8
No religion	4.6	0.6
Had a religion	4.8	1.1
Home country (UK)	4.5	0.5
Home country (Malaysia)	4.8	0.9
Home country (other)	5	1.1
Spoken language with family		
English	4.6	0.6
Native minor language	4.7	1.1
English + another language	5	0.9

4.4 Discussion

This study was conducted to measure the level of CQ in final year pharmacy students using the CQS. The association between CQ and related factors (i.e. demographic variables, intercultural contact and worldviews) was explored and a summary was presented in Table 23. Because the dataset was not normally distributed, the median and IQR values were presented in Table 24.

Opinions of students on cultural training were sought to determine the next stages of the research. It was disappointing that the response rate was only 40% (n=98) despite sending seven reminders on a weekly basis. As the response rate of the study was 40%, I considered comparing demographic data with whole class demographics. However, some variables of the whole class were not available, such as ethnicity, and secondary education.

4.4.1 The CQS

In general, the students reported a high level of metacognitive CQ which means students check their assumptions before intercultural interaction. This can be reflected in students' comments, such as "would like to prove to people from other cultures that it is not that hard to talk to me" and "let local/other group know that we like to be friends but just don't know how to". Despite the high level of motivation to interact with students from different cultures, there was uncertainty in "how" the intercultural interaction should take place between students. Comments can also reflect that there are misconceptions between students where students felt they need a chance to "prove" that certain perceptions are not true.

The reliability of the CQS in this study is high (Cronbach's alpha= 0.91). This result is comparable to other studies in the literature (Ang *et al.*, 2007; Eisenberg *et al.*, 2013; Iskhakova, 2018). The results of the CQS are consistent with most findings in the literature (Ahn & Ettner, 2013; Koç & Turan, 2018). The lowest CQ factor is cognitive (mean 3.97, SD = 1.13) and the highest is metacognitive CQ (mean = 5.13, SD = 1.14).

4.4.2 Demographic characteristics

The results of this study showed that the level of CQ and its four factors did not significantly differ between male and female students. This finding is consistent with a Saudi study which also found no statistically significant difference (Al-Dossary, 2016). The evidence in this area is inconclusive where one study found female students to be more culturally intelligent than male students (Bücker & Korzilius, 2015) and others found higher scores of CQ in

male than female amongst hospitality business and management students (Abdien & Jacob, 2018; Brancu *et al.*, 2016; MacNab, 2012).

Although fourth year students were from 25 countries, students who responded to the questionnaire were from ten countries and mainly two ethnicities, i.e. White and Asian. This could be related to the fact that the programme is based in the UK and another programme is offered in Malaysia where students join the UK campus for the last two years of their study. Overseas students were found to have more cultural knowledge on norms and values than UK students which can be explained by their experiences of living abroad. Students from Malaysia had higher cultural knowledge than students from the UK and other countries. This finding can be related to ethnicity or the broad intercultural contact they may have had. In contrast, behavioural CQ of Malaysian students was the lowest compared with students from the UK and other countries. Asian students were found to be more aware of cultural norms and values than students from white and other ethnicities. This finding is not consistent with findings in the literature where ethnicity did not play a key role in cultural knowledge (Crawford, Awe, Tawk, & Pickard, 2016). Interestingly, students from other ethnicities had higher behavioural and overall CQ than white and Asian students. In this study, students who reported they had a religion showed a higher level of cultural knowledge than those who did not have one. It is not clear how religion affects cultural knowledge. No studies considered this in pharmacy education nor in the studies that were reviewed in this thesis.

Socio-economic status was considered at the beginning of the data collection process and questions about parents' occupations were collected. This variable was used in the UK based on the published evidence (Harrison, 2012). However, it was evident that the relationship between occupations and socio-economic status can be different in different countries. Students were from various countries and it was not possible to collect evidence about the relationship between parents' occupation and socio-economic status in different countries. Therefore, data from this variable were not presented in the thesis.

4.4.3 Intercultural contact

The question on living abroad experiences may have been interpreted differently by students. The question used was “Have you ever lived in any country/countries other than your home country?” and was followed by an open question to specify the duration and state the countries they lived in. The duration varies between six months and 19 years and the countries students lived in vary between one to three countries. The response to this question was inconsistent as some Malaysian students for example considered the current UK stay for study as a living abroad experience while others did not. Nevertheless, living abroad experience was significantly associated with increased behavioural CQ in pharmacy students in this study. Evidence shows that even short trips for 11-12 days can enhance metacognitive, cognitive, and motivational CQ (Wood & St. Peters, 2014). Students from the 2+2 programme were more knowledgeable about cultural norms and values. This could be related to the fact that students have lived in at least two countries and develop their cultural knowledge from living abroad. However, behavioural CQ was not high for 2+2 students compared to UK-based students. Although the difference between UK-based students and 2+2 students was not statically significant ($p=0.05$), it seems that cultural knowledge did not influence students to behave effectively in culturally diverse situations as some find themselves in situations where they “do not know how to”. Other factors that may affect this finding could be the awareness of negative experiences by 2+2 students as Crowne (2008) found with full-time international students. It is widely acknowledged that local students can escape situations if they do not feel comfortable. In contrast, international students cannot avoid such situations. It is clear that students found it difficult to have informal intercultural contact which can help them develop their CQ (Lin & Shen, 2019). Findings in this regard support the basis of contact theory as intercultural contact does not always lead to growth of intercultural capabilities (Allport *et al.*, 1954). However, the growth of cognitive CQ did not seem to influence behavioural CQ. The relationship between CQ factors is not fully understood (Ang & Van Dyne, 2008). This finding needs further understanding using qualitative approach which will be

presented in the following chapter. The interviews needed to explore what can facilitate and hider their behavioural CQ.

That being said, there was a significant association between students who shared their accommodation with people from different cultures and an increased level of behavioural and overall CQ. Behavioural CQ was high for students have had intercultural contact, such as living abroad, and being from overseas. It can be suggested that students in these settings may have informal contact which is proven to predict the level of CQ (Sousa *et al.*, 2019).

In the current study, students who speak more than one language were reported to have higher cognitive CQ than those who speak only one language. This finding is supported by other research (Robledo-Ardila, Aguilar-Barrientos, & Román-Calderón, 2016; Urnaut, 2014) where they found a positive association between speaking languages and cognitive CQ. This could be related to the fact that speaking at least two languages allows a person to explore another culture by having genuine interactions and asking questions to obtain more information. Results also suggest that students who communicate with their families using more than one language have higher cognitive CQ.

4.4.4 The need for cultural training

The need for training was checked twice to minimise the impact of bias associated with answering questionnaires. A closed-ended question was used for the first time, the question being “Do you feel that you need further training to work with students from different cultural backgrounds (different nationalities, gender, age, and ethnicity)?”. The results were 44% (n = 42) yes and 56% (n = 54) no. However, when the question was asked with a Likert scale prompt, “I would like more activities to engage with students from different cultures”, 78% (n = 74) agreed they would like to have more activities.

The question may have been interpreted differently. The construct validity of this question is not known as I designed this question. The face validity of the question was checked with postgraduate researchers. To clarify the confusion, this point was one of the areas that was covered in the interviews.

Various reasons were reported for students' answers. Students were more interested in being friendly with their peers and concerned about causing offence due to unfamiliarity with certain cultures. Students reported a motivation to change their attitude, as in "make me aware" and "I would like to ensure that I am respectful to my peers".

Students can have different opinions about cultural training. Halabi and de Beer (2018) found that the percentage who felt the need for such training in nursing students to be 50%. This finding could be due to over-estimation of the perceived level of ICC. If so, the over-estimation may be related to the idea that students think their generation is different and their skills were already developed since they have had intercultural contact from a young age and diversity is natural for them. Another reason is that undergraduate students have little life experience as most of them are in their early twenties. Evidence shows that in some cases interventions to improve ICC result in no change or a decrease in the reported level of ICC (Barner, 2000; Muzumdar *et al.*, 2010; White-Means *et al.*, 2009). The explanation for this finding is linked to over-estimation and realisation of the limited knowledge or skills after the students are exposed to the topic.

This study was the first study to explore the level of CQ amongst pharmacy students. The study identified the students' needs of cultural training to provide students with effective educational intervention. It is not clear if students from other years have the same level of CQ. A longitudinal study from California State University revealed that 79 fourth year students had a significantly higher level of CQ when they were in their first year of study (Nguyen *et al.*, 2018). This study was not experimental and other factors could not be ruled out. Another American study compared 169 nursing and medical sciences students at Seton Hall University from the first and final years using a cross-sectional design (Jones & Pinto-Zipp, 2017). Although the tool used, the Global Worldview Cultural Competence Survey (GWCCS), was different from the one used in my study, the scores of final year students were higher than those of the first year students. Students seem to develop their CQ differently.

Therefore, a follow-up qualitative study was conducted to more deeply understand students' views and reasons behind the reported answers.

4.5 Chapter summary

The results of the cultural diversity questionnaire were reported in this chapter. Students reported a high level of metacognitive CQ, yet encounter issues that hinder effective intercultural communication with their peers, this needs further investigation. Views of students regarding receiving cultural training varied with the majority considering it a useful opportunity to develop their CQ. Reasons were followed up using interviews and the results of the interviews are presented in the following chapter.

Chapter 5. Students' perspective on cultural training

5.1 Introduction

This chapter presents the findings of the second study in the PhD to understand students' reasons and perception of facilitators and barriers to effective intercultural contact in their programme. Semi-structured interviews were transcribed verbatim and analysed thematically. Four themes are presented and discussed. A more detailed discussion is presented in Chapter 7.

5.2 Methods

Given the accepted premise that not all levels of reality can be reached directly in the social world, semi-structured interviews were chosen as a tool or method to collect data empirically from the social world through social construction by social actors. The data collected about the world fall into the transitive domain of knowledge and could be fallible from the perspective of critical realism. Since students interact together through communicating ideas, the interview approach was chosen to explore this social action in depth. Use of focus groups is a method that can collect qualitative data by interviewing groups of participants (Bryman, 2012; Creswell, 2018). I did not choose to conduct focus groups in this thesis because of the sensitivity of the topic where students may not reveal certain information if they think saying it can offend other students. Focus groups can be difficult to arrange (Goicolea, Wulff, Sebastian, & Ohman, 2010). Another approach that could be used is participant observation to collect data on what people do (Bryman, 2012). However, it may lead to the observer or Hawthorne effect where individuals modify their behaviour as a result of their awareness of being observed. It could be argued that social actions are pre-interpreted through intentions, reasons, meanings and so on, and that the presence of these is of paramount importance in reproducing social actions in similar contexts (Archer *et al.*, 1998; Bhaskar, 1991). Thus, to understand the phenomenon, it is necessary to explore participants' accounts

of what meanings they construct socially and what could affect their behaviour. Students experience cultural differences and construct meanings differently based on their perceived competencies and confidence. Therefore, explanations of students' perception were important in understanding contextual factors.

Semi-structured interviews offer a scientifically appropriate method for understanding complex phenomena (Bryman, 2012). Individuals' accounts are collected in this study because this is one way to reach the constructs (i.e. intercultural capabilities and familiarity with cultural differences). It is not done on the basis of methodological individualism (Bhaskar, 1991). The major difference between the holistic approach (my approach) and individualism is that claims in the holistic approach are in ontological domains rather than in the empirical domain. Individualism advocates that behaviours or social actions are products of rationality or rational thinking. Thus, social actions should be studied by understanding rationality on an individual basis. In contrast, the holistic approach believes that for social actions to be reproduced, intentions and motivations should be maintained in similar contexts which result in regularities in action as long as those motivations are maintained and reproduced.

In this study, I am not assuming that students' behaviour in terms of intercultural capabilities is suboptimal. The data from the validated cultural intelligence scale showed that most students lack knowledge of other cultures' rules and legal and economic systems (>40%) (Ang & Van Dyne, 2008). Education provides a way of optimising behaviour through knowledge and practice (Kolb, 1984). However, understanding the needs for training is the most important step in building a model based on students' meaning. As an interpretative understanding is very limited through a questionnaire, semi-structured interviews could reveal in-depth understanding from the students' perspective (Bryman, 2012).

The limitations of using semi-structured interviews as data collection tools should be acknowledged. The information obtained from participants is filtered through memory and may not provide a thorough understanding of the

phenomenon (Bryman, 2012; Silverman, 2013). Additionally, the social context during the interview could have an influence on participants' answers.

5.2.1 Tool construction (interview guide)

Interview guide development was directed by a systematic approach suggested by Kallio, Pietilä, Johnson, and Kangasniemi (2016). In this approach, I designed the interview guide using five stages that aim to enhance credibility, confirmability, and dependability of the study (Appendix 7). The first stage was to identify the appropriateness of the semi-structured interviews; the need for these interviews was provided in the previous section. The second phase was to retrieve and use previous knowledge. The literature review provides a conceptual basis for the interview guide at this stage. Cultural intelligence was used as a proxy for capabilities of intercultural competence which is understood as a developmental process and has three components, personality traits, worldviews, and intercultural capabilities (Griffith *et al.*, 2016; Leung *et al.*, 2014). Cultural identity as a concept is explored as context because individual agency influences students' behaviour (Holmwood, 2009). The relationship between worldviews and intercultural capabilities is explored through concepts such as ethnocentrism. The developmental aspect of intercultural competence was explored through prior experiences and familiarity with cultural differences. Both prior experiences and familiarity with cultural differences were collected in the questionnaire but were explored in depth in the interview stage. Characterisation of culturally appropriate and effective behaviours by students was sought to understand such behaviours from the students' perspective. Relevant knowledge could be collected through other sources, such as consulting experts. I collected relevant knowledge from students, through the questionnaire, as most of them reported a high need for training on cultural diversity and provided reasons from their own experience during their study. Additionally, students' responses to some items on the Likert scale were relatively low. The third stage was to formulate the preliminary semi-structured interview guide. A list of questions was designed in a logical and coherent manner that was relevant to previous knowledge. In the fourth step, the designed interview guide was piloted to test

its coherence and identify any need to reformulate the questions. In the final step, the interview guide was presented in the thesis (Appendix 7) to enhance the quality of the research and to enable other researchers to use it. Follow up questions depend on students answers and therefore were not included in the final interview guide.

The questions in the interview guide were used to start conversations with students and various follow up, probing questions, were used based on the responses of students. For example students answered the question about their experiences of working with students from various cultural backgrounds by referring to their group work in simulated pharmacies. Thus, the questions were then followed about their group, the dynamic of interactions, the relationship between pharmacists and patients.

5.2.2 Findings from the questionnaire that informed the interview guide

Results suggest that students have broad cultural knowledge of different cultures. However, the reported responses would suggest that students have limited knowledge about systems that control different cultures. For example, 51% of students disagreed that they know the legal and economic systems of other cultures. This could be due to limited experiences as undergraduates. However, since most practices are governed by systems, it is important that students are familiar with those that could explain certain practices, which may reduce stress and uncertainty and improve the development of intercultural capabilities.

Unfamiliarity with the rules of other languages, with marriage systems and arts and crafts of other cultures, were also reported to be high (48.4%, 43.2%, and 47.4% respectively). Students who reported high cognitive CQ were found to have low behavioural CQ which needs further exploration. Moreover, students reported high levels of uncertainty in their understanding of non-verbal behaviour, which could affect their interaction with other students (46.3%).

Motivational cultural intelligence was reported to be high, which would suggest that students are willing to interact with people from different cultures, but they

may be uncertain due to lack of familiarity, which may increase stress and lead to avoidance behaviour or ineffective interaction.

5.2.3 Piloting

Before embarking on the main study interviews, two pilot interviews were conducted with PhD students who had graduated from the same school in 2013. The two students - one male and one female - had studied for one year in Malaysia. The female student was a British student from an ethnic minority and the male student was an international student. Their views and perceptions led to amendment of the interview guide. Each interview lasted around 20 minutes. I reflected on my performance and the need for elaboration in answers using probes. A third pilot interview was conducted with MB in the presence of the second supervisor and the feedback was used to develop my skills as a novice researcher and the questions in the interview guide.

5.2.4 Sampling

I decided to use purposeful sampling to cover the views of students from different cultural backgrounds (Bryman, 2012). An email was sent out inviting interested students to participate in these interviews. Unfortunately, there was only one student who responded to indicate that they were willing to take part in an interview. I decided to use the convenience sampling technique to increase the response rate. Another email was sent and one more student showed interest. On the third trial, no student showed interest. Then, the ethics application was amended to recruit students face-to-face after their exams and to conduct telephone interviews. After obtaining ethical approval, I approached students after they had finished their last OSCE exams in the school, which were held over two days (Wednesday 30/05/2018 and Thursday 31/05/2018). Every nine minutes, a group of three students finished at the same time, and I approached them as a group. However, some were not willing to speak to me, therefore I spoke to individual students who finished early, while the other students in their groups were still writing feedback for the school.

A short introduction about me - the researcher - and the project was provided and students who were willing completed a participation sheet containing

demographic information and their preferred time to be contacted (Appendix 8). On the first day, 56 students agreed to participate and completed the participation sheet. I contacted some and arranged times. One cancelled on the day of the interview, one said she could no longer participate, and three did not respond to my calls and emails.

On the second day, I recruited students until midday and 22 students completed the participation sheet. I conducted four interviews on the second day of data collection; as students were approaching the end of term, I aimed to recruit as many participants as I could, so I had to schedule eight interviews each day for seven working days. Some students did not respond to calls or did not show up after agreeing the time of the interview. I considered conducting interviews on weekends and conducted three interviews at weekends. One student showed interest in taking part, but preferred to have the interview at her house, as it was Ramadan and she was fasting and did not want to go out. I adhered to the university's security regulations and conducted the interview at the student's house. The telephone interviews were arranged for appropriate times for students. The interviews carried out over the summer were arranged in the evenings or at weekends, as students had started their pre-registration training. The interviews lasted on average 30 minutes. In total, 34 interviews with 35 participants were carried out over eleven days (Figure 12**Error! Reference source not found.**). All interviews were audio recorded with permissions. All but one of the face-to-face interviews took place at the university campuses (University Park and Jubilee campus). I wrote self-reflection notes after each interview to refer to them in the analysis process.

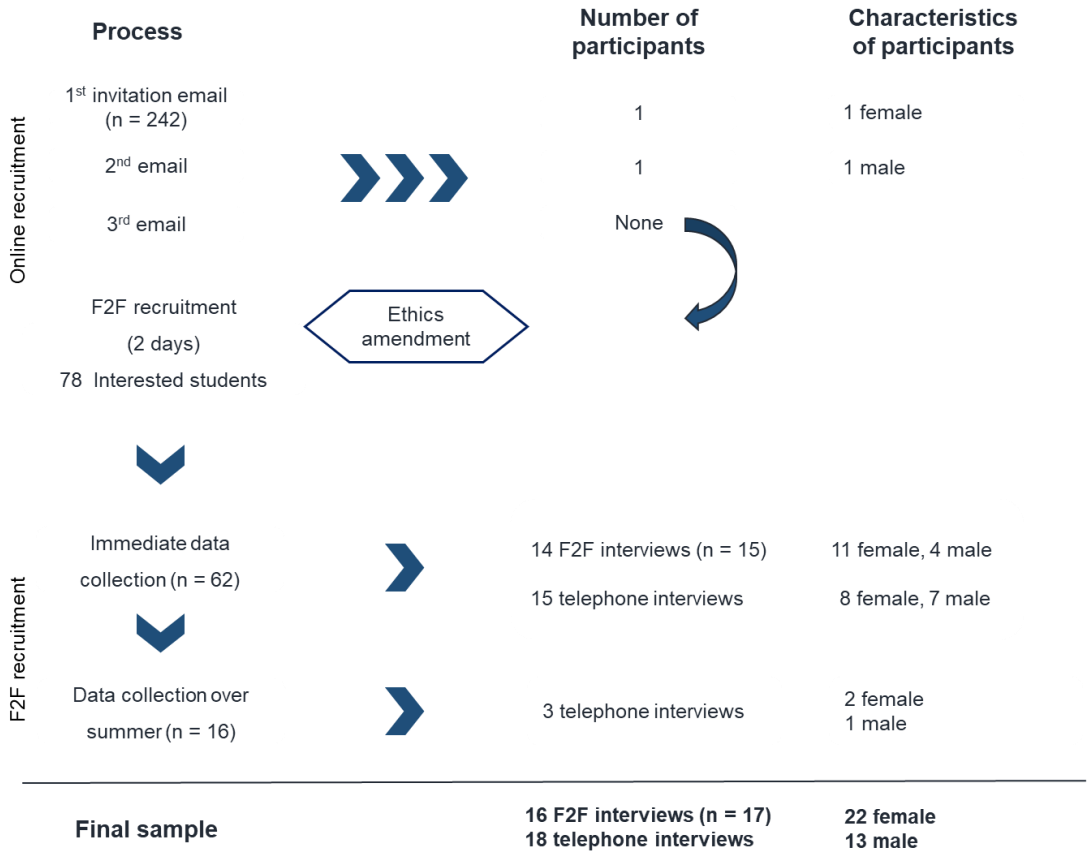

Figure 12. Sampling procedures for interviews

Two students were interviewed together at their request. All the interviews were audio-recorded. However, for one interview the recording failed, so, field notes and reflection on that interview informed the analysis in the absence of a transcript. I conducted all interviews to minimise any impact on the responses. The average length of interviews was around 30 minutes and the maximum length was just over one hour. Although the study targeted the same group of students, not all the interviewed students had participated in the questionnaire which may have lowered the impact of participant fatigue. Moreover, evidence shows that participation fatigue is common with lengthy, irrelevant, and multiple questionnaires (Porter, Whitcomb, & Weitzer, 2004). Therefore, it is less likely that participant fatigue affected the students in my studies as the questionnaire only took approximately 10 – 15 minutes, students during interviews showed enthusiasm which may reflect the relevance of the topic to them.

5.2.5 Data analysis

According to critical realism philosophy, data from interviews provide explanations of the mechanisms behind events (Archer *et al.*, 1998). The analysis of qualitative data was conducted in two stages: data management and interpretation (Bazeley, 2013). The goal of the first stage was to gain familiarity, organise the data and develop a coding framework. The recorded interviews were transcribed verbatim using the Transcribewreally[8] software, which can be used offline. Transcribewreally provides a platform to manage the audio files, but does not convert audio to text. I transcribed the interviews manually and the software was used to slow down the audio and manage the recording with a foot pedal. The aim of using both Transcribewreally and the foot pedal was to increase my productivity during the transcription and save times.

A computer Aided/assisted Qualitative Data Analysis Software (CAQDAS) package is only used to facilitate the coding process, but does not perform the analysis. Thus, I did the analysis manually using tables to organise data and facilitate the coding process. Manual analysis was completed and tables of codes and quotes were developed for the data management. Another table of participants' profiles was developed to aid the analysis. The process of thematic analysis started with commenting in the margins, during the transcription, to capture preliminary thoughts of potential codes. The second stage of data analysis - interpretation - followed thematic analysis (Braun & Clarke, 2006).

The thematic analysis approach described by Braun and Clarke (2006) was followed using the six phases guide (Figure 13) which was developed in their further publications to be called reflexive thematic analysis (Braun & Clarke, 2016, 2019, 2020; Braun, Clarke, & Hayfield, 2019). The six phases are: 1) developing familiarity with data, 2) generating initial codes, 3) searching for themes, 4) reviewing themes, 5) defining and naming themes, and 6) producing the report (Braun & Clarke, 2006). For the first phase, I developed

[8] https://transcribe.wreally.com/

familiarity with the data through reading and re-reading printed transcripts and highlighting key phrases, as well as referring to my notes of self-reflection. I listened to each interview several times and started developing initial codes.

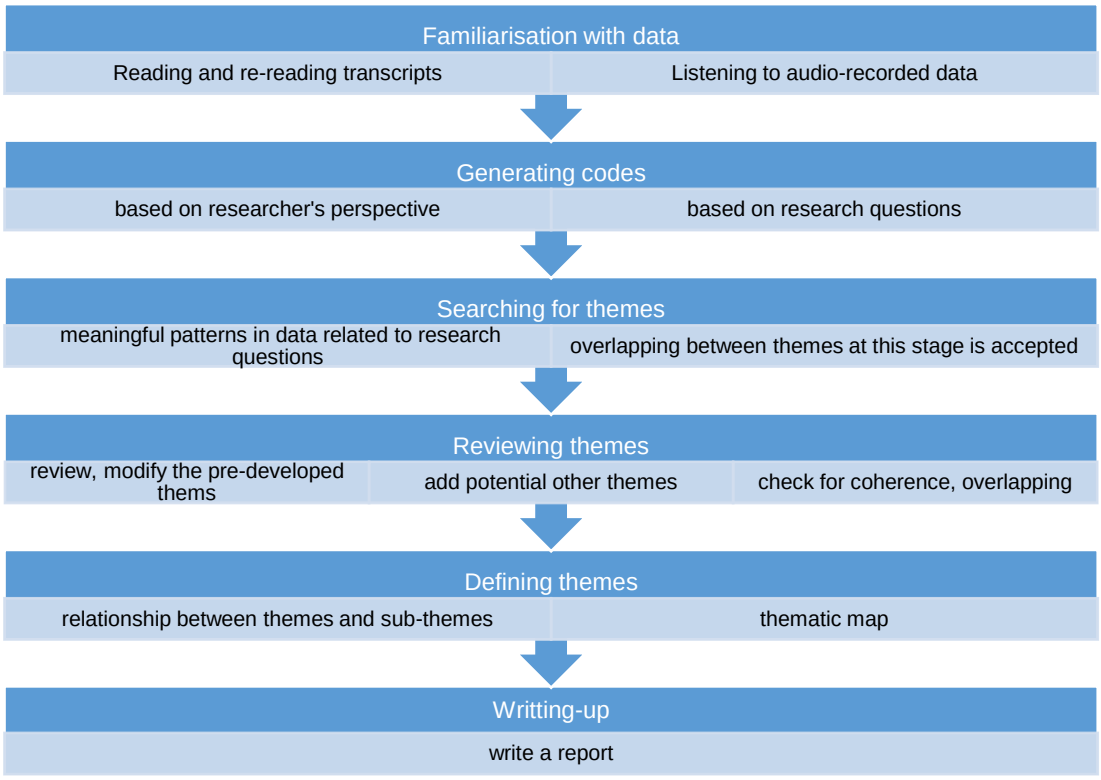

Figure 13. Six phases of thematic analysis

The goal of the second phase was to re-describe the data theoretically and identify the potential codes from students' experiences. Because of the difficulties in recruiting students, I coded the first two interviews and produced the potential coding matrix (Appendix 9) (Smith & Firth, 2011). Codes were reviewed against the audio transcripts with supervisors to decrease the impact of subjectivity (Bazeley, 2013). Codes were then used to find patterns in the whole data set after collecting more data. Coding progressed as I collect data, some codes were renamed and potential themes were identified. In the fourth phase, themes were reviewed through repeatedly applying themes and reviewing them against all transcripts (Braun & Clarke, 2006; Bygstad & Munkvold, 2011; Fletcher, 2017).

I considered categorising themes according to Context-Mechanism-Outcome (CMO) configurations at this stage (Bygstad & Munkvold, 2011; Fletcher,

2017). I consulted a critical realist researcher after I did the initial analysis using CMO configurations using the stepwise approach for critical realist data analysis (Figure 13) (Bygstad & Munkvold, 2011). He thought my results may not present the richness of qualitative data using this way of analysis. CMO configurations provide a robust way of analysis for evaluation research in medical literature (Bygstad & Munkvold, 2011; Manzano, 2016; Pawson & Tilley, 1997) but my study is different in the design as it aimed to explore students experiences. It should be mentioned that there is no autoreactive way of analysing data in critical realism. Critical realism provides knowledge on what works, how, and under which contexts, and applying CMO configurations can produce a deterministic approach in my setting as I was considering one school and the contexts can be explained in discussion rather than in themes. Thus applying critical realism as a critical inquiry can provide understanding that can guide the development of the educational intervention (Ellaway *et al.*, 2020).

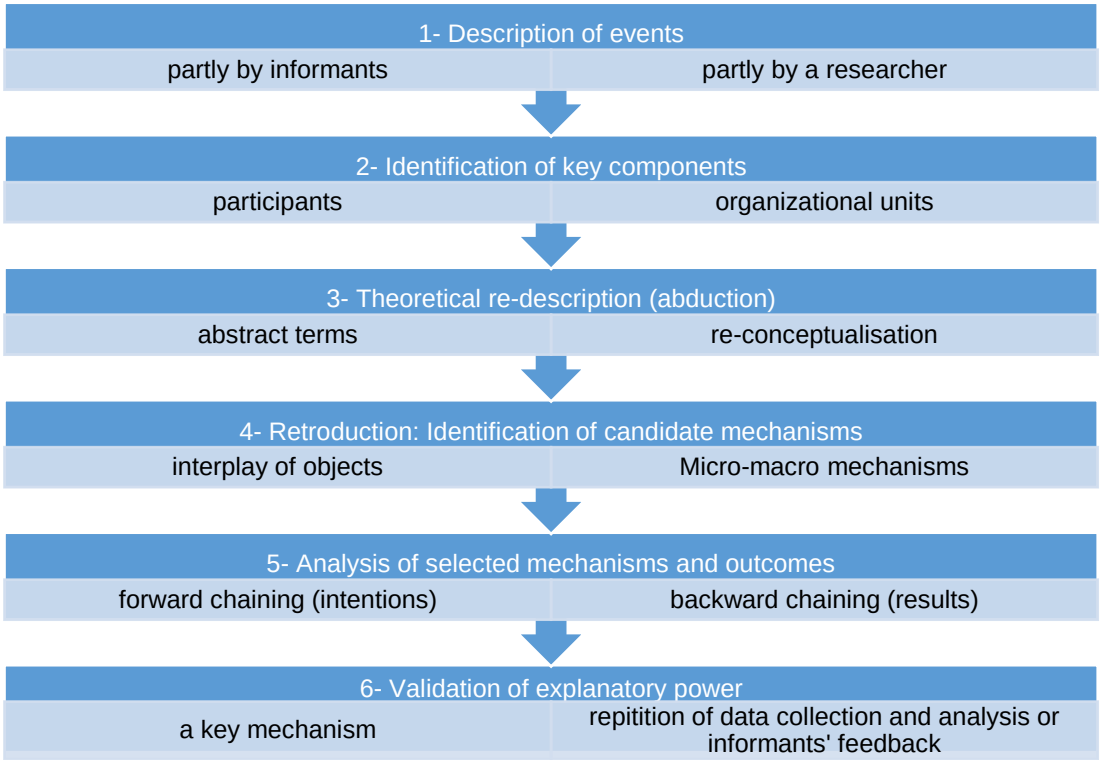

Figure 14. Stepwise approach for critical realist data analysis

Themes were finalised through relating them to the literature and they were defined in the fifth phase. I discussed my themes with researchers in the

division after I presented my analysis during a round discussion. In the sixth phase, the chapter on reporting interviews data – chapter 5 - was written to use quotes as evidence to support the identified four themes.

Consolidated criteria for reporting qualitative research (COREQ) reporting guidelines was used to ensure the transparency of the findings presented (Tong, Sainsbury, & Craig, 2007). Richness of the data reported was checked by following a published guideline for reporting qualitative data (QUAGOL) (Dierckx de Casterlé, Gastmans, Bryon, & Denier, 2012). Both short and long quotes were reported, and identifiers were used to cover a wide range of respondents.

5.3 Results

Thirty-five students were interviewed in 34 interviews, 16 face-to-face, and 18 telephone. Of the 35 students who participated, 22 were female and 13 were male (Table 25).

Table 25. Ethnicity of students who participated in interviews (n= 35)

Ethnicity	N	Female	Male
White British	8	4	4
Other British (BAME)	8	5	3
Malay Malaysian	12	9	3
Chinese Malaysian	3	2	1
Others	4	2	2
Total	35	22	13

Themes were developed based on the thematic approach of analysing qualitative data as described in the data analysis section in Chapter 3. The four main themes identified were: 1) intercultural contact, 2) familiarity with cultural differences, 3) the development of CQ, and 4) the need for cultural training (Figure 15). The terms native and non-native speakers are used to mean English native speakers and non-English native speakers' language. The emphasis added in the quotes is my emphasis.

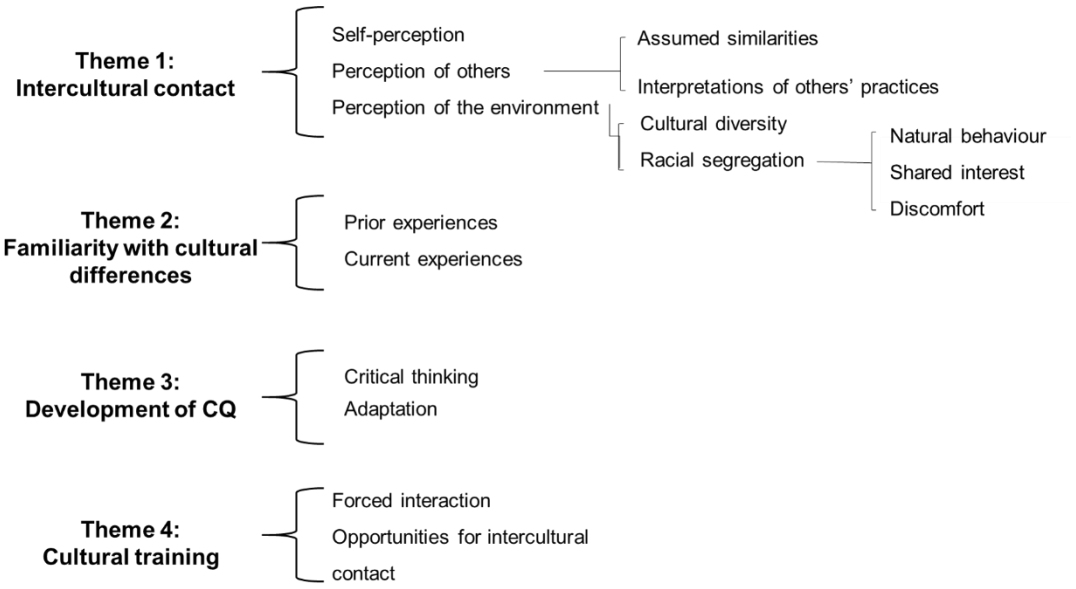

Figure 15. Themes and sub-themes of the interviews

5.3.1 Theme 1: Intercultural contact

Intercultural contact focuses on the exposure to cultural differences and how students make meaning of them. The nature of intercultural contact can be influenced by how students perceive themselves, the situations around them, their attitude toward them, and their confidence and motivation to act in certain ways. Moreover, how they perceive others around them, and their behaviours, can affect how they communicate with them.

Sub-theme 1.1 Self-perception

The tendency of students was to express themselves as open, aware, sensitive, accepting, seeing no difference from others and respecting all students regardless of cultural differences. It is not clear if this self-perception is an over-estimation or growth of self-awareness. Some expressed their metacognitive cultural intelligence and their awareness of their thought processes when interacting with people from various backgrounds. The expected results of interactions were evaluated and variations in the students' behaviours were considered within certain contexts.

"I mean I don't have issues acclimatising to different people. I know in my head I will act slightly differently but not particularly. But I think I'm a laidback person who is not nervous"

(P6- White British male student)

"I tend to be more sensitive for people from different backgrounds, for example, like, umm, like just I would try to avoid saying something that is very sensitive in some cultures"

(P29- Hong Kong Chinese female student)

All students expressed their sense of enjoyment and motivation in speaking to students from various cultural backgrounds. Some considered speaking multiple languages a motive for speaking to people from various backgrounds. Cultural diversity of students on the course was acknowledged as providing a medium to start their intercultural interactions. The reported experience below revealed that this student is used to intercultural contact and speaking with people from various cultural backgrounds. He found the cultural diversity in the course as facilitating interactions between students.

"I am always used to it. I speak Arabic as well, I speak French as well because I am from Algeria. I am quite diverse to languages. I always like talking to people from other cultures. I always find that as an advantage I have in terms of speaking to other people …I feel like because there are so many of us, it like facilitates talking to people"

(P8- Arab British male student)

Some attributed the change in their cultural knowledge and attitude to studying with students from various backgrounds. Final year students are allocated to groups throughout the year to run their own simulated pharmacies. All the groups were allocated by staff members to ensure mixing of students from the UK campus and the Malaysia campus. Although students from the Malaysia campus join the UK programme in year 3, there was no sustained activity for students to work together. Students in their group work spent one year together which allows them to speak about their lives within the groups. Some students reported enjoying learning about the cultures of their peers.

"I am more open, and understanding cultures now in fourth year because of the fact that I have to work with them a lot of time"

(P10- Malay Malaysian female student)

"I learned a lot about Malaysia, and then for different cultures … I am aware of what Islam is like in different countries … it made me more aware of that and their culture … I am more aware of different cultures now. It's quite interesting"

(P15- Indian British female student)

There was a small number of students who considered themselves as not being that aware or familiar with others' cultures. This may suggest that increased awareness makes students realise their limits and motivates them to learn more about cultural differences. One Malaysian student described his awareness of British culture after being immersed in the UK for two years as "on the surface familiar".

"… may be the English because I spend 2 years here, ***on the surface familiar****"*

(P3- Malay Malaysian male student)

Some British students reported the need of being aware of different cultures. One British student expressed herself as "not that culturally aware". The student acknowledged that she knows "little bits", but she expressed her lack of cultural knowledge of some cultures. This finding may suggest that when students encounter intercultural situations, they realise the surface nature of their cultural knowledge. This may make them think that they can grow their own cultural knowledge.

"I'm probably not that culturally aware. Like, I wouldn't say like, I know the culture, like the country … maybe I know little bits about [inaudible] but not particularly familiar with any in particular culture to be honest [laugh]"

(P24- White British female student)

Sub-theme 1.2 Perception of the environment

Sub-theme 1.2.1 Cultural diversity

Participants in the interviews had contradictory views of how culturally diverse their course was. A small number of students did not deem the course to be culturally diverse. Their claims were related to comparison with other schools in the UK and the fact that the 2+2 programme provides the course with Malaysian and Chinese students, but other ethnicities were rare. Students who expressed this view were from minorities in the UK.

*"**It's not diverse** because I have been to a school in Leicester, and Leicester has a huge population of like Asian, there was much more diversity, but in Nottingham University, **it wasn't that diverse**. It were, it was diverse in the sense that we had 120 Malaysian students coming in and we had, you know, like foreign students, like from China, Hong Kong, umm but I don't see that there was many of Asian or Pakistani, I think it was me and a couple of other girls and that's it"*

(P34- Asian Pakistani female student)

The majority of students interviewed acknowledged the cultural diversity of the course. The cultural diversity of the city made some international students feel comfortable in finding their cultural needs. Interactions with people who share their religion, ethnicity, or language made international students feel welcome and they had found similar people and situations where they could feel comfortable. The following quotes describe how students found diversity affecting their lives and relationships with their peers.

"In terms of the University of Nottingham, because there are so many of us, it facilitates talking to people, I have my Arab friends here who come from Egypt, who is doing pharmacy with me here, and who comes from Malaysia, so I can talk to them in Arabic as well and make them feel welcome as well which is quite nice".

(P8- Arab British male student)

*"I think it's good they have this diversity because it's **easier** for us, we can search for places for Muslims and I am not sure about the others"*

(P13- Malay Malaysian female student)

Some considered culture and diversity as adding an interesting aspect to their lives. This positive view is usually linked with the sense of enjoyment of meeting people from various cultural backgrounds. Additionally, cultural diversity is seen as a means of broadening the individual's horizon by gaining knowledge. This finding may suggest that positive views on cultural diversity can motivate students and provide them with a sense of enjoyment as they develop their learning.

"… when you have a mixture, then you don't get bored, you perhaps ***learn something new****"*

(P22- Chinese British male student)

Sub-theme 1.2.2 Student-chosen segregation

It was widely acknowledged by students that student-chosen segregation with students who share similar ethnicities or religion is obvious in the students' cohort. Explanations of, or justification for, this vary from seeing it as a natural and global human behaviour to difficulty in finding shared interests and feeling uncomfortable being close. Different perspectives were considered in terms of natural behaviour, shared interests, and discomfort.

- ***Natural behaviour***

Students stated that people naturally tend to form relationships with similar people whom they feel familiar with, and the similarity was expressed in terms of ethnicity, personality and religion. They argued that the student-chosen segregation exists because of personal choices of friendship rather than avoidance of communicating with others who may look different.

"I think it's ***naturally*** *… you tend to* ***gravitate towards people that are of the same culture****, the same interest… I think it's that an issue thingie at uni... university is not what I expected to be up to. … it's quite segregated … but uni cannot be prejudice, and judge people on their ethnicity or anything like that when they take them in"*

(P25-1- Asian British female student)

Some critically reflected on practices of student-chosen segregation in lecture halls. The phenomenon was expressed as “a real shame” and “an issue”. It is suggested that the reasons behind this practice need to be understood for change to happen. The segregated groups identified by the student below include “Muslim”, “white British”, and “black women”.

*“It's really sad, but **naturally** we don't integrate that well … also you have whole groups of the lecture hall that might be just Muslim women, umm, or just white British people. **It’s a real shame**, but I think it's quite a big obvious thing when you walk in a lecture hall. And also umm amongst the black women they will sit together as well. So I don't know, **it's a shame,** but I am **not sure why it happens**, but I feel it's [pause] **too big an issue to change by one person** moving and sitting somewhere else, maybe I am wrong”*

(P28- White British female student)

- ***Shared interests***

Most students explain the student-chosen segregation as an active rather than passive process of controlling their behaviours by explaining their choices of people who have similar interests. The most recognised segregation between students was racial segregation, perhaps because this is obvious. This is connected with “discomfort”, “difficulty”, “common grounds” and “lack of knowledge”. One student mentioned that other students did not integrate well with some Malaysian students. Her reason was directed toward the “other” students as they do not share similar backgrounds.

*“… because they don’t see any, like, **linking between each other”***

(P1- Chinese Malaysian female student)

Other students described the lack of shared interests from her perspective as it was “difficult” to talk about shared topics when she cannot think of any topic she may share with them. The student may have been thinking about natural conversations in her language and how she can achieve the same depth of conversation. Most students talk about their hobbies and interests and she found hers different from them and it was difficult to choose a topic for conversation.

*"I don't know what topic I can tell them and share with them, it's kind of **difficult** to find it if we have the differences"*

(P5- Malay Malaysian female student)

Another student justified their behaviours in terms of being comfortable with students who share similar cultures. The students stressed similarities between them to make them familiar with their practices and interests.

*"… but I feel like, for myself for example, I feel more **comfortable** with people from **my culture** because **they are like me"***

(P34- Asian Pakistani female student)

One student denied any "strict segregation". The presence of segregation between students was seen as a result of choosing the friendship group that shares background or religion. This finding suggests that students were aware of the student-chosen racial segregation (i.e. student-chosen), however, they consider it a choice of their actions based on their expected behaviours.

*"… nothing strict segregation. I think people **choose** their friends loosely based on their background and on their religion, I think this is the thing"*

(P27- White British male student)

Some tried to explain their actions by denying any negative attitude against the other group. It is interesting that this student acknowledged that she only noticed the preference in communication when she got older. Her early education and socialisation was mixed, but student-chosen segregation was a choice to fulfil social practices.

*"I get the feeling that people **feel comfortable** with speaking to their own culture, probably less open to other people from other cultures, just because for social reasons, umm I have **more in common** with people from my own culture or similar culture. Umm, not to say I don't like people from, I've got no problem at all, but I think I personally find it **easier to connect people that are from similar cultures** to me really. I think just I am getting older"*

(P12- Chinese Malaysian female student)

- ***Discomfort***

Student-chosen segregation is affected by multiple factors and students explain it as causing discomfort. If students wanted to develop their relationships with other students from various backgrounds, they meet outside of timetabled activities. Sometimes these social events may prevent some from going there not because they do not want to be with their peers, but because the environment is not a comfortable one for them to be in.

"They do pharmacy social, but … a lot of the time, we cannot go to these socials because they, like, involve drinking and ***you feel uncomfortable****"*

(P25-2- Kurdish British female student)

This lack of comfort in a place of social meetings is not mutually understood by their peers and this lack of mutual understanding of the situation can result in assumptions of a lack of interest or other reasons. It was not discussed openly between students in the course. The root cause of this behaviour was claimed to be religion. The student who shared his experience below assumed that other students may lack knowledge about places that involved drinking because "they have not even tried it".

"The only thing I suppose, the main thing I'd say is alcohol. So alcohol related events, I didn't get any event to go to these sorts of things, because I don't think they will enjoy it. I think they don't really get that. But I think this is largely a religion thing, and they haven't even tried it in general. So it is like ***they don't really ask about it****, so I don't know whether they don't see it interesting, … But we had often in the past asked, come on come with us, and they're like na'ah, so it-I really don't know what is going on their heads when you ask them. ….. but this is in our perspective, makes us think go on [laugh]"*

(P3- White British male student)

The level of comfort is sometimes expressed by way of an evaluation of the difficulty and easiness of certain situations. It is linked to language skills, personality and knowledge of the person. Some stated that they take longer

to express their thoughts in a language that is not their native one which sometimes demotivates them from participating in conversations. Some international students found some British students to be unfriendly and preferred to mix with other international students, but this was not generally true.

*"it is **easier** to mix with Hong Kong than the white I don't know why, but maybe the Hong Kong are more friendly … It is not related to race it is the individual may be because they are in my first group the local themselves are **not friendly**. I mean there are also some locals who are more friendly and we can make friend with [inaudible] it is just happened that they are not friendly"*

(P3- Malay Malaysian male student)

*"I think partly because **we are all international students we just go to each other and talk**. For my friends, I can see that they are **more comfortable** talking to students from Indonesia or students from Singapore and Malaysian students compared to speaking to locals"*

(P29- Hong Kong Chinese female student)

Some have explained the process of comparison and evaluation before they decide to avoid situations that may lead to discomfort. The evaluation is done based on knowledge, capability and expected outcomes. Actual competence in the language was the main issue that makes the person think about themselves in terms of language competence. Students prefer to be at least at the same language level, but not lower than the other person. Perceiving a lack of language competence can result in negative feelings which was claimed as demotivating students to have conversations in the dominant language unless it was necessary.

*"a bit more difficult with the locals, but they are friendly, but the **socialisation is difficult** … when I talk with the Hong Kong we have the same level of English so it does not meant my English is broken or their English is broken so we can just speak normally, but when I am speaking with the local sometimes I feel I am broken so **I avoid when the topic is unnecessary** and when the topic is needed"*

(P3- Malay Malaysian male student)

Some linked the discomfort to gender and expressed their preferences to have interactions with people of the same gender. Both cases in this category were linked to the Islamic faith.

"I'd say in my first group I was the only boy, so this is maybe the reason why I am not close to them"

(P3- Malay Malaysian male student)

"The other one is Malaysian boy, you know, I cannot really because he's a guy. I cannot, it is Ikhtilat and so" [laugh]"

(P5- Malay Malaysian female student)

Some have explained the discomfort in terms of fear due to a lack of familiarity in situations and the expected social structures around them. The following quotes show the students' interpretations. It was suggested that students may seek situations that make them feel "secure" and tend to avoid situations that may make them feel "intimidated".

*"If you put me in a group with, would I talk to them? probably no … **they would feel intimidated** coming to us, as **we would feel intimidated** coming to them … **this is a global thing,** [laugh]"*

(P25-1- Asian British female student)

Sub-theme 1.2.3 Perception of others/comparison of self to others

- **Assumed similarities**

Students expressed different views about how they see themselves and their peers as being similar or different. Some argued that being from different backgrounds and having different practices may make it difficult to find similarities and shared interests. However, that acknowledges that similarities exist naturally with people. This view suggests that students should actively search for similarities with students to start connecting with them. Additionally, this can suggest that students tend to go with the easiest option and avoid situations where they found them hard or stressful.

*"It's, in a way, **harder** to find similarities, but there is always similarities between people"*

(P6- White British male student)

Some think that finding common ground and having a chat about it is helpful in building bridges between students from various backgrounds and in improving their work. Finding similarities was suggested as being around hobbies or personal interests. Starting from a common interest can make the communication enjoyable and motivate people to meet as they share similar values. Being a student in pharmacy is seen as a common ground for some students as they can find subjects they can talk about. Additionally, the difficulties in their learning and studying could be a point for starting conversations as all students go through the same experience but address it in different ways.

*"**We can find common interests**, may be a sport for example, have a general a chit chat in sort of build that team around, I guess that's umm, I guess that's important, because we can find those common ground, everybody shares really. Because we do this course as well, in this course, we are mainly sort of common values of working together in pharmacy I guess because pharmacy course, because of difficulty as well, because of the difficulty of it, we kind of just trying to do it together, … that's really build bridges between people from different backgrounds I think"*

(P27- White British male student)

One student began describing the similarities by emphasising that they were all pharmacy students. His view on cultural differences was vague. He denied there were any cultural differences between students in part of his talk, but acknowledged the presence of cultural differences in general. The openness is expressed by acknowledging that there is no right and wrong in people's behaviours and beliefs. He attributed the power imbalance and discriminatory action in general to a failure of being open. The journey of being open starts from intercultural exposure in his view.

"At the end of the day we are pharmacy students. So we don't have any difference … but when it comes to pharmacy, ***we're all the same****. We're all, no difference between us. I don't notice anything … I have no problems, you know, I accept there are cultural differences, there is no right or wrong. There are some people, you know, we cannot deny that try to - they look at other cultures in a more of…. [inaudible] There are superiority of that culture, because they feel what they are doing is wrong or .. yeah. I do feel that the way for you to counter issue like that is just to get them to* ***experience different people*** *themselves and be more open"*

(P7- Black British male student)

Similarities were considered from different perspectives, from being human beings to doing the same degree and going through the same difficulties. Most students emphasise that they are "very similar" and they expected everyone to feel the same. One student expressed a mechanistic description of students being "bones, and meats, and brains". Students in this category, in general, doubt cultural differences can have any impact on their work. The sense of enjoyment is always presented when describing similarities between students. This is usually linked to learning about others or finding the situations "nice".

"… for me, it's like when you learn about other people, ***we are very similar*** *regardless, we are still bones and meats, and brains"*

(P22 – Chinese British male student)

"It doesn't feel like, they're not any different. They're not and of course they're not, [laugh] umm, and I don't really expect them to be, but ***we're all very similar people*** *in our culture and home countries doesn't seem to have affected that, it's really nice"*

(P27- White British male student)

- **Uncertainties or interpretation of others' practices**

It was mentioned earlier (Segregation section, p.139) that student-chosen racial segregation was one of the main findings students noticed and reported in this study. A more detailed explanation of how students see and interpret behaviours of their peers from various cultural backgrounds is provided in this section. The reasons behind actions and the comparison with students'

expectations are considered. Malaysian students were described - by some local and international students - as being quiet because they could be shy and reserved. Some explained the shyness as being a lack of interest in integrating with other students. Others attributed that behaviour to societal and cultural norms in Malaysia, being a “conservative” culture. Students in this category used the UK as a reference point of expectations of behaviours. Reluctance in participating in certain academic tasks that require confidence in speaking English in front of other people was linked to personal characteristics which could be shaped by culture.

*“I'm not sure if they are **shy** or it's just something they are not interested in, but also that's a general feeling, I am only speak for, say 100 students, like everyone”*

(P33- Indian British female student)

*“The Malaysians in our group I think because of that and their culture which is more conservative compared to people from here, they were a lot more **shy** and **reserved**, like in taking some certain tasks, like, I don't know, like giving out, when we have to practise, like giving out patient [inaudible] advice or like certain topics they were more reluctant to take part in”*

(P18- Indian British female student)

Although some British students were willing to help if students found some tasks difficult due to the requirement of high language proficiency, they expressed their concerns if they allow others to practise doing them. Students tend to avoid difficult tasks and asked others in their team, who have higher language skills, to do them first.

The data shows that there could be a lack of understanding of the cultural differences. Students from the dominant culture and students from overseas expressed different views on their experiences. The behaviours of student-chosen racial segregation and language isolation were seen as protective practices from local students to cope with culture shock, as described earlier. However, some, mainly Malaysian students in this study, expressed that there were fewer opportunities for them to go freely and communicate with people and found some environments to be less welcoming for them than they had

expected. Evidence suggests that there is a clear lack of understanding between students and their expectations from each side. Difficulty in expressing thoughts in a non-native language was noticed by both local and Malaysian students in this study.

"We don't understand exactly what [laugh] they are trying to say and they don't understand exactly what they are trying to say"

(P18- Indian British female student)

"but for me, they don't feel, … because, when we are in second year, we have students from here coming to Malaysia … I feel like ***me welcome them very with warms*** *… because …* ***we want to make friends with other people****, but then when we come here,* ***no one even bothered or thought about us*** *[laugh]. So we were like OK! [laugh] … when they come, we were like oh, hi, welcome, how are you, nice to meet you, where are you from? But when we come, it's like* ***nobody is asking us*** *[laugh] we were like with each other, with 2+2 students, so I think that's why.* ***That's the problem*** *when we don't mingle because there is* ***not much opportunity*** *where they oh, hi, I am from Malaysia, and try to be friend with people … from my experience I am the one who initiate everything, everything I was like, how are you? Where are you from? [laugh] … the way we are raised or just they are comfortable with the one they already know, I think it depends on people also … yeah, because* ***I expected people to be like, hi****,* ***welcome****, ….and everything,* ***but I didn't get that****"*

(P9- Malay Malaysian female student)

The previous example shows that finding the reality different from expectations can lead to frustration because students interpreted the unexpected behaviours as their being unwelcome in the new environment. The student concern was seen as a lack of empathy from their peers. Some students also expressed the same concern as they think their voices and ideas are not being listened to or valued. Students were expected to be included and they used their previous learning experiences as a reference point where they used to listen and welcome other students in their country. One student expressed this as not giving Malaysians equal opportunities in their groups to express and use their views and ideas. The student stated that this made them feel

unwelcome. The reaction of Malaysian students as conveyed in the quote above was “we were like OK” and stayed “with each other”. They reported their acknowledgement of the behaviour although they do not find it suitable and helpful for them in their learning as they articulated it as a “problem”. It was widely stated that Malaysians expressed their intention of making friends in the new environment but did not find a similar interest from their peers in the new environment. The interpretation of student-chosen racial segregation as being “racism” was thought about and interpreted as not expressing any verbal exclusion of others.

“That’s why a lot of Malaysians when come to grouping, all of us just thinking as long as it’s not racism, everything can be communicate. Because if one people is willing to listen, definitely other people will be willing to listen as well. But Malaysians are willing to listen to the locals. Why not locals give a chance to Malaysians to listen to the Malaysian voice and their opinions”

(P1- Chinese Malaysian female student)

5.3.2 Theme 2: Familiarity with cultural diversity

Sub-theme 2.1 Prior experiences

Familiarity was looked at from two perspectives, prior experiences and current experience. Students showed different ranges of prior experiences, from students who come from towns where most people share the same ethnicity and language to people who speak various languages and moved to various places throughout their lives. One student described her prior experience as interacting with similar people in her school. Her school was a private girls’ school therefore the majority of students were from a middle class white background. She compared her current experience with her previous experience and noticed a big difference in cultural diversity. Studying at the UoN was her first intercultural contact in working with people from various cultural backgrounds for a long time.

“I went to a private girls school … in that sense it wasn't the most diverse school, and most people would very much are … from middle class white backgrounds … but by and large … it wasn't a particularly diverse school. Everyone kind of came

from the same backgrounds, similar kinds of expectation in that sense, everyone was very education driven, … in Nottingham, I had … more exposure to like working with people from different places that I wouldn't have before"

(P24- White British female student)

Students who had prior experiences of extensive intercultural contact reported changes in their current behaviours. Some reported being more open to connecting with other people from various cultural backgrounds. One student deemed her school to be culturally diverse. She developed friendship connections with students from various cultural backgrounds. She considered that her prior experience had made her open and accepting of differences. She raised her concern that not all students are aware of cultural differences and that this can impact how students interact with each other. She recommended that the school should provide students with information about the Malaysian culture, which is understandable, as the majority of students from overseas are from Malaysia.

"In my school I had friends who were from different cultures, so I had that past experience, so that helped… so may be for the school of pharmacy, for 2+2 may be they might be giving them, like Malaysian background, or something, then you get a grasp like from where they are coming from and then may because [inaudible] to connect them at the beginning and then obviously you have a balanced understanding of different backgrounds, so but most of the time everyone I spoke to get along with different cultures perfectly fine"

(P31- White British female student)

Some students reported experiencing negative effects of cultural diversity in their early education. It was reported as a lack of understanding of differences and causing offence to others by asking rude questions. One student expressed her hesitation in speaking to other students of a different cultural background for fear of causing offence. The quote below includes an incident that she witnessed. Her reaction was that some people are living in a "little bubble". The student reported extensive travel to various countries around the world and she experienced travelling alone in America for a few weeks. The student found behaviours that showed ignorance of cultural differences which

scared her. This suggests that these behaviours can result in unacceptable consequences.

"I try to be more reserved when I speak to them, but then at the end of the day it depends whether that person have been travelling abroad, or they have taken holidays elsewhere, outside Europe, or outside all continent, because for me, parents they fly a lot like for business and others and they would take me with them, so I got to see other cultures since I was very little, but then for other students or other people I met in my life in here, umm, they are kind of, living in this little bubble [laugh], I don't know if I can say this here, but when I was in year 9, I was in Geography lesson, and the teacher was talking, was teaching us about Africa and China in general, and there was a girl, she was local, and she asked a Nigerian friend, whether they still live in a bush? It just offends people, and then everybody just got so quiet. I mean at the age of 13, you should better that, first of all, if the Nigerian student, if she got to come to UK to study, she definitely wouldn't live in a bush, it did really offend here, and it made people, it did make this about how [inaudible] other people are about other cultures, and about how, and the fact just taught her about how the world is working is really scares me. [laugh]"

(P29- Hong Kong Chinese female student)

Some shared the experience of having cultural diversity in their family. Because the exposure to the diversity in this situation is for a prolonged time, they described their growth in awareness and development of skills that enable them to handle similar situations. The quote below described an experience of a British-born Chinese student with his parents as they do not have a high level of proficiency in English.

"I usually take it slow if people, like, struggle in English, so I rather take my time and explain it in a different manner, I always do this at home with my parents"

(P22- Chinese British male student)

Some talked about their prior experiences of living with people from various cultural backgrounds and different ethnicity. However, their experiences are contextual as they were living in their home country and can see "common things" between people. One Malaysian student described her prior experiences of cultural diversity. However, she thought her prior experience is

different from her current experience and not helping her in her situation in the UK. Cultural diversity in Malaysia was seen as different ethnicities having the same nationality. However, in the UK, she meets people who are different in nationality and experiences. She found this presented a barrier to interaction and integration between her and her peers in the school.

"It's very different like in Malaysia I live with different culture people, still we are Malaysian we have common things within us, so all this country in the UK I a little bit feel different, it's far more different and difficult. Because there are some barriers, I don't really understand the culture and then I have to work with them, but you know working is not talking about work, it's talking about the whole life, I think this is very different, I don't get along with them because I feel there is a barrier, I feel ***there is a barrier between us****"*

(P5- Malay Malaysian female student)

Sub-theme 2.2 Current experience

Students' experiences focused mainly on two aspects regarding the challenges they face in intercultural situations and the benefits they gain from intercultural communication. Challenges can be categorised into the language skills and management of uncertainty. Listening skills were mentioned as being difficult in the beginning for non-native speakers. However, it was evident from their experience that listening skills and confidence improved with time.

"… they are ***fast****, so sometimes I cannot get it, but I need time to process what they are saying to understand what they are saying so I think I need time to understand"*

(P12- Chinese Malaysian female student)

All students accepted by the school met the minimum requirement for the language proficiency. However, some non-native speakers found recognising the sense of humour difficult. This could be because non-native speakers learn the language in a formal setting and therefore the informal use of the language is not familiar to them to recognise and understand immediately. The data revealed that this issue was common amongst non-native speakers. One

student described her experience below to link the “problem” to the use of the language, not the language itself.

*“… sometimes it’s a **bit difficult** for me to understand because I cannot tell if they are sarcastic, or the things they say … it’s not, in terms of language, it’s not a **problem**. I think **the way they use the language** itself could be a **problem**. The language is fine but it’s the context the meaning they are use it a situation might be a different from what I take the whole meaning”*

(P4- Chinese Malaysian male student)

As students were exposed to more situations and experienced the informal use of the language, students developed their confidence and participated in relaxed conversations. One native speaker described what she witnessed in her group, as shown in the quote below. The improvement in the use of the language is claimed to be associated with spending time with their colleagues in the school.

“… it definitely improved throughout the year and everyone was having a joke and laughing, stuff like that”

(P28- White British female student)

Another student attributed the improvement to the good dynamics in the group. The improvement in students’ speaking skills was witnessed in conversations between students as well as when speaking to patients. The quote below shows that students share their feedback with each other so that each student uses the strength of their peers to improve their skills.

“Through the year as they get more confident talking to us, umm, then they got more confident talking to patients as well, and, because umm, we had a quite good team, we had quite a good team umm, dynamic we all helped each other, umm and we could give them feedback and they gave us feedback too, and they did improve a lot throughout the year”

(P23- White British female student)

Speaking skills are linked with confidence. Students who expressed their lack of confidence reported their preference in avoiding situations where it is

unnecessary to talk. Also, students who speak English as an additional language tend to be slower in speaking which may require the patience of native speakers. The interviews data shown below describes how students perceive the speaking skills of some non-native speakers. Some non-native speakers said that some local students may be “impatient” when non-native speakers take a longer time to articulate their speech.

“I do say some local a little bit, not irritated but, umm kind of, a bit impatient umm when people had to find their own way of saying thing out, but I mean [pause] English is not our first language, we try hard to kind of learn, and improve our English, just you get to be more patient I guess”

(P29- Hong Kong Chinese female student)

Speaking with patients in consultation was one point of discussion. Students found the situations difficult when other students watch them, as being observed may put extra pressure on students performing the consultation. Students may think about how others perceive their competence in addition to how best they show their skills and check understanding. Students who speak English as an additional language expressed their fear of being misunderstood. Lack of understanding was claimed to lead to frustration and dissatisfaction. The scenario described below shows the reaction of a simulated patient to a lack of understanding which was poorly handled by one of the non-native speakers.

*“Sometimes **patients don't understand them**, in patients scenarios … the patient kept saying to her I don't understand you, … so I'm gonna leave this pharmacy and then made her upset, and then pressure from the group as well, and because we were all watching her doing the consultation, so **she feels very pressured**”*

(P25-1- Asian British female student)

The lack of understanding was evident in a few cases. The clarity of speech is affected by the speaker’s accent. Students may comment on their peer’s accent which can be difficult to change and it can be a major concern when the patient cannot understand the consultation. One local student struggled to understand the accent of some students from different backgrounds, however,

mutual understanding was eventually achieved with her colleagues. The concern was considered from the patient's perspective. It was not obvious from the data if the students discuss what they think may not be clear in their speaking in patient consultations.

"you can struggle with the accent little bit, but umm, me personally with students from different backgrounds, I did understand them fine, but I noticed when they were talking to patients, sometimes I would think myself, Oh, ***I don't know if the patient will understand*** *that"*

(P30- White British female student)

Non-native speakers expressed their concern in speaking to patients. Major challenges are related to the tone of conversation and the choice of words. As students are aware of their language competence and observe the native speakers, students may think more about the way they speak to patients. These concerns suggest that pharmacy students are checking and working towards providing clear and appropriate messages to patients, as shown in the following quotes. This finding may suggest that students develop their behavioural CQ as they encounter intercultural contact in their learning process.

"Sometimes I struggle to find the word like the word that suits the patient, that's why [laugh]"

(P19- Malay Malaysian female student)

"I think we can understand each other quite OK. It's just I cannot speak nicely with them [patients] like the locals"

(P12- Chinese Malaysian female student)

The variation in speaking skills affects communication with patients, which is part of the group work. Students can sometimes focus just on the scores and overlook the developing skills of some of their peers. In one case, a student mentioned that the poor performance of a non-native speaker was believed to feed into the assessment of the group. Feedback of some students led to frustration with some of their team members. Students were described as

being competitive as they focus on their strengths and “blame others” if they cannot perform to a high standard.

“it’s great because it kind of reflect us on how we develop as a group, but it kind of make us to be like more competitive to each other and we kind of compare ourselves in terms of good skills, and communication skills as well because we particularly know who handle this specific situation and then when things missed out we kind of blame others for umm, the reduced marks for example that we got for our group, so this what that girl say that of, I think we scored last or second last because of your poor communication skills! ... I was taken back by that, but I don’t know the exact situation, how it was like and, umm, whether that girl is saying that thing, in private or not? But at the end what I know is that this Chinese girl cried [laugh]”

(P10- Malay Malaysian female student)

It was not clear in the above example how the student gave the feedback. The same issue was reported from another student who thinks students may over-react to feedback, which may mean they lack skills in some areas.

“… it was let’s say we are working together and someone said, umm, you’re doing this wrong! And the person who replied said I’m much better than you”

(P16- Arab Egyptian male student)

One of the findings related to the use of language and confidence is the variation in performance of a student with other people. Confidence can be related to the perceived ability of the listener which may motivate the person to speak confidently. However, evidence suggests that other factors can affect confidence. The quote below describes the experience of a British student with her Malaysian student partner. It was acknowledged that the Malaysian student’s language skills are appropriate and confidence with her colleague was confirmed. However, the Malaysian student was found to be shy with patients. This may suggest that familiarity with people can affect confidence and motivation.

"… she is shy with the patients, but me and her getting on really well, and she wasn't shy with me, so I didn't know why that was"

(P28- White British female student)

The second challenge that was generated from the data was the management of uncertainty, which is discussed later in this chapter. This is related in part to having a new experience and also to the perception and interpretation of others' practices. Some students described being excluded from conversations when a different language from the dominant language is used in their groups. It can be assumed that this exclusion was not intended, otherwise it would be considered unacceptable behaviour in their social situation. The experience below suggests that students were "friendly" but they "stick to themselves" because it is easier for them. However, students who share their class can feel excluded and wonder if "I could be included".

*"They don't speak out as much, and **they stick to themselves** and sometimes I find they **speak in their own language**, and then, I just say it as a joke sometimes, I don't understand …, could you tell me what you are talking about? But then, they're friendly … they're obviously **not talking about you**, but then you feel like I could be included"*

(P25-1- Asian British female student)

The benefit of intercultural contact in year 4 was mentioned as improving confidence, attitude and cultural knowledge. Most discussion of intercultural contact between students was mentioned within the teamwork in their simulated pharmacy. It was claimed as enhancing students' engagement with each other. It was also acknowledged that team members tend to support each other and all students give each other feedback to develop their skills. The group work was seen as a medium to start integration with students from various cultures. As students do not choose their peers in the group, they were most likely to be allocated to new students that they had never met before. Students found the group work motivated them to learn cultural knowledge from students from different cultures.

"… when in a group, you work together, you kind of, find out more about their culture anyway, yeah fourth year is good like that"

(P26- Indian British male student)

Being open to other group members can enhance working relationships. Students have differences which means they have different strengths to share between them. In the following quote the student may assume that being from a "culture rich area" hinders understanding of the perspective of other people who have a different culture. The student considered openness to other cultures as a way of understanding and hence developing working relationships.

"If you are from a culture rich area, or you have a strong culture, you still have to be open to other cultures, so you still have to understand what other people's cultures are, and that's how you can get along with people in a group … we all quite different, we all have different strengths"

(P34- Asian Pakistani female student)

5.3.3 Theme 3: The development of CQ

Sub-theme 3.1 Critical thinking

Some students expressed their awareness of how culture can affect them and their interactions with their peers who are from various cultural backgrounds. Some students expressed their critical thinking of early life experiences in developing the individual's beliefs and values. Additionally, they expected their peers to be different in their worldviews and perspectives. Not only were social structures seen as affecting people's behaviours, but also agency was considered to play a significant role in an individual's choices and actions. The agency is expressed in the developed personality for each person that will direct their motivation and guide their social actions. Students who showed this view are more open to intercultural dialogue or "cultural exchange" as they call it. It can be concluded that "cultural exchange" may not take place if people deny the existence of cultural differences between them as this exchange was described as the result of valuing the differences between students.

"I think is very different for different people because we were grown up in different countries and then we were taught by our parent and then our teachers who was from different cultures and then develop our personalities and stuffs like that, so it's basically very different, but then I think there are things that's good in each culture and we can try to get the good of it and then try it and do culture exchange"

(P14- Chinese Malaysian female student)

Sub-theme 3.2 Adaptation

Adaptation to the host culture was usually described from the international students' perspective. Data show that some students found moving to a new environment challenging and was accompanied by psychological changes, as described in the literature earlier as "culture shock" (Deardorff, 2009). Description of students' experiences of adaptation is similar, but also different, to the described literature in some ways. Students noticed the differences and developed social networks in the new environment. Some students described their experiences of moving and adapting to the environment as "very hard". Some acknowledged that a new place is "different" and focused on adapting themselves to the new culture.

Some described certain factors as contributing to the difficulty of the adaptation process. One factor was the difficulty of the student's listening skills at the beginning. This was attributed to the new accents of the language and the speed of talking. Listening skills were critical for them to understand the course materials and to engage in discussions to develop their understanding.

*"When I went here it's **very hard**, even in Malaysia we have a UK lecturer, it's very hard to understand what they're talking at first, because of their English, because we learn American English it's very clear, but the UK for me is very fast, it's very hard for me to catch what they are talking about"*

(P5- Malay Malaysian female student)

Another factor attributed to the difficulty of the adaptation process was the fact that students have their own friendship groups formed at an early stage of their studies. Students from the 2+2 programme expressed this view. It was not

clear if they had left their friends in Malaysia or they were looking for new friends in the new environment.

*"When we are coming in year 3, umm, most of the local students, they are really have their group of friends so sometimes we find it **hard** to integrate with them"*

(P21- Chinese Malaysian female student)

Another Malaysian student who found the situation troublesome reported a negative impact on her academic work and assessment. The adaptation in year 3 was found to be difficult due to social isolation in the new environment as the student found herself "a bit lost".

*"… because I'm not from here, so for the first semester when I first arrived I was a bit lost! Yeah and I cannot adapt that very well so I had **trouble** when I was trying to study and this thing and you can see my marks dropped a bit due to I cannot adapt very well … 3rd year, … For me, I am struggling a bit"*

(P9- Malay Malaysian female student)

The struggles were found to be at the beginning. Improvement in working relationships and academic work was evident as students progressed in their studies. Group work in year 4 was reported to improve their integration with their peers.

"… it's quite hard actually first [to interact well with each other], but I think, I think as we do the work and umm, get along with the work, that would be fine"

(P20- Malay Malaysian female student)

These experiences were found to trigger anxiety of anticipating that things might go wrong. This student explained his discomfort in terms of cultural distance and variation in norms. The discomfort was believed to persist and the student would not see himself as being comfortable in the new environment.

*"… but just here I don't know, but **you don't feel comfortable**, **you just always feel that there's something to happen wrong** [laugh]"*

(P16- Arab Egyptian male student)

Although international students showed a deep understanding of their experiences on moving to the UK and developing their skills, some British students found some situations "difficult" when they had to work with new students who they had never met before. This suggests that every student can play a role in getting to know new students and develop their connections to start working in a comfortable environment. Lack of knowledge about the new students was seen as the contributing factor to the discomfort and difficulty.

*"It was more **difficult** at the beginning because we didn't know each other very well"*

(P23- White British female student)

Other factors that made the adaptation to the new environment difficult were described by one student. Factors that were mentioned include age, lack of social support, lack of knowledge in the new systems and the new environment. His insightful view in expressing his experience gave a detailed description of the "culture shock". He attributed the difficulty to a lack of prior experience of independence and his young age. Visa-related issues led to a delayed start to the course. This delay added more pressure for him to handle, in addition to the pressure of social isolation. As he tried to manage the academic duties, he isolated himself from others. He did not find people who shared similar ethnicity and language and did not communicate with other people. His experience affected his health as he "lost 13 kilograms".

*"… because I was 18 years old, I had never left my family for a single day, let alone be left in a completely different country, I knew no one in Malaysia**, I knew no one**, I had absolutely no idea of what was going to happen … **I was under so much pressure** … **I was so depressed** to the point that … **I lost 13 Kilograms** at that first semester … you feel defeated for no reasons … I was going by myself on the first 3 months …, and I did not communicate with anyone, I still ponder of how,*

*what kind of emotions that led me to this in order to go through that without actually **speaking hardly to anyone** I think this was the hardest communication thing"*

(P16- Arab Egyptian male student)

Once he had adjusted to the new environment in Malaysia, he then moved to the UK in year 3 and started another difficult journey. Although he had prior experiences in Malaysia, he reported the move to the UK as "the most hardest shift". He compared moving to the UK to his previous experiences and found it very different as the UK is a western country and the cultural distance is different from his other experiences. Other external factors attributed to the difficulty of adaptation were the length of the day and the variation in social norms.

*"…semester 2 was really good ...I was pretty **accustomed to the condition**, until you come here [laugh] … it was just really new experience … England was I think, it was the most hardest I'd say **the most hardest shift …** first of, it is that's the first time I go a western country in my life. I never went to - I think I never went to outside Africa and Asia. Second of, I used to live in… three countries where the sun is always there [laugh], and all of a sudden **you live in a country where the sun sets at 3 pm!** It was **depressing** … you come at 9 am the sun was about to go out, and then you go to lectures until 5 and it goes back, **black and dark**"*

(P16- Arab Egyptian male student)

Some students describe their experience as a "challenge". It was acknowledged that social interaction builds the sense of belonging in the new environment and improves their psychological symptoms of stress at the beginning. However, some students have a limited number of people who they can approach and develop their relationships with. Students often speak to people who share similar ethnicity and language.

"At the beginning, it was quite exciting …. I try to go to a lot of events and get to know people. So as the time passes by and you barely contact others, we feel we lost our contact … I try to talk to people this is the first thing, then we talk to each

other more. So I think communication is important thing for the adaptation… they [British students] are not close friends, just here the classmates"

(P12- Chinese Malaysian female student)

It was clear from the student's experience above that the first stage of excitement in the "culture shock" model is evident where she participated in multiple events. The difficulty and psychological changes were experienced after spending some time in the new culture. The student realised that her social network was not the one she was supposed to have. This realisation affected how she considered people around her and led her to start communicating with new people who share a similar language and ethnicity to overcome the sense of how "lost" she felt in the new environment. Another student validated the previous experience in building the "sense of community" by speaking to people who share similar ethnicity and language. The same student explained earlier the difficulty he went through with him hardly speaking to anybody. This student is from the 2+2 programme and his experience reflects two experiences of moving to new environments and the strategies he found helpful in coping with stress, as shown in the following quote.

"I started even to hang out with more Egyptian at that point …this created the sense of community to be honest and if it weren't for that ***sense of community****, I- it would've been a lot harder"*

(P16- Arab Egyptian male student)

Another Malaysian student expressed a similar experience with emphasis on the role of social interaction as a strategy for coping. For her, communication with her peers did not help at first due to the lack of understanding of the scale of her issue. Communication with her tutor was prescribed to help her as it "lifted up" her from feeling "alone" and stressed. The support from the academic tutor seemed to help the student develop her social network and communicate with "other people" in her year.

"I think if you have people who support you here, it makes everything better, makes things easier, because sometimes your peers cannot understand you, and

other like the lecturers and your tutors understand you more than your own peers! … because I started to mingle with other people, so I feel like, but then, I don't know just for me but then of being ***oh I am alone*** *I don't have anyone to rely on it just lifted up because I realised that I have my tutor … who is very supportive"*

(P9- Malay Malaysian female student)

Sub-theme 3.3 Metacognitive CQ

Students showed some development of metacognitive cultural intelligence during their interactions with their peers. Here a student expresses her reasoning skills through considering different backgrounds and contexts. Cultural differences were seen differently based on country of origin. When students experienced cultural differences in a foreign country, the situation is expressed as "different" and "difficult", whereas people claimed to have things in common if they share the country of origin. This suggests that when students experience various early life experiences in different geographical locations, they may have different meanings or perspectives when considering the same situation.

"It's very different like in Malaysia I live with different culture, people still we are Malaysian, we have common things within us. So all this country in the UK, I a little bit feel different, it's far more different and difficult"

(P5- Malay Malaysian female student)

Some showed higher order cognitive processes involved in monitoring their own thought process. A student explained her awareness and planning in speaking to students who don't speak English as a first language. She tried to use a simple vocabulary to enhance understanding.

"I always adapt to people who I'm speaking to ... everyone notices I do that, I try to avoid like, using difficult vocabulary when I'm talking with people who're language is not like less than mine … I'm quite mindful about the way I am speaking to"

(P25-1- Asian British female student)

Some expressed their reflections on the expected and actual results of an intercultural encounter. Some students may spend extra time checking their

messages if they are written in a different language from their own. The messages were perceived by some British students as “more polite” as they had a clear structure. The student in the following quote compared the messages she received from her non-native language colleagues to how she writes messages. Although she is fluent in the dominant language, she does not seem to use the same writing style. This quote may suggest that non-native speakers were aware of the differences in the language competence, therefore, they plan and check their writing to enhance understanding of their messages.

“… their written is like they are more polite, I think maybe, because you know, they were thinking about they were saying or, for me I just type, it doesn't necessarily read very well, but they are so polite, like their sentences are very nicely structured, and they have like nice introduction”

(P24- White British female student)

Some showed their awareness of the assumptions and skills they apply in their intercultural situations. Additionally, they showed that they check how these can affect intercultural situations and people’s preferences in communication. Accent was acknowledged as impeding understanding both in an intercultural setting, and also between people who share a similar nationality. The quote below shows the student’s awareness of his accent and the planning he did to speak clearly with his peers.

“I have an accent I tried to take this out a little bit [laugh] if I can, but again I try doing with everybody so, I am worried sometimes my accent is not readable by not people born elsewhere but also people in this country, so I try to speak more clearly I’d say but I’ve never tried to slow myself down”

(P27- White British male student)

Although the following finding may not have a direct effect on how students interact and communicate in intercultural situations, awareness of social issues regarding cultural diversity is acknowledged by some students. Intercultural contact in the university does not happen in isolation from other social structures. Students may behave in certain ways because of the

expected behaviour in their social institution. What the student meant in the following quote may concern the negative interpretation of cultural differences and racism or any behaviour that results from an imbalance of power, such as discrimination.

"… an important part of our culture is being welcoming to people, but I know that's not always the case"

(P30- White British female student)

It was common for students who describe their colleagues as being from a different cultural background to deny any differences in how they perceive them. The denial of differences may suggest that students were aware of some interpretations linked to some cultures. The intercultural contact with people who have different practices can make individuals think and check their mental thought process. One student described his colleague as a "normal person". Their final judgment or perception was based on a comparison of themselves with the people who they interacted with during their studies. Another student described the actions of one of her group members but having different practices did not make her think that they are different as students, nor did it affect their work.

"He (his Indian colleague) is a normal person really, just like the rest of us really"

(P31- White British female student)

"I don't really know about each other's religious beliefs, my understanding is we're all fairly atheist, but the Malaysian, he is a Muslim and nothing that is it, he would go and pray, it doesn't make any difference"

(P28- White British female student)

Some commented on other students' lack of awareness when they had a clinical case on medications to be taken during Ramadan. The attitude of students who lack awareness of cultural practices was to delegate tasks to Muslim students. The situation was described by some students as if their peers did not want to do the task because of their lack of understanding. Additionally, some students may assume that students who share the same

religion would have a deeper understanding of the issue. Muslim students who took on the task mentioned that they only know about the practices of Ramadan in general. However, they needed to do some research to find out what medications can be taken and how to modify the dosage if needed.

"Once we had an email called Ramadan query, it's a query when someone I think a woman was diabetic and she wanted, she didn't want, she wanted to fast Ramadan, so we had to give advice on that, so I wasn't the one who received the email, so it was another colleague of mine, umm, well another group member who received the email, and they immediately sort of, didn't want to write it, may be because, obviously, it was probably because ***they weren't aware of it*** *… they said it out loud, and looked at me as you can do it the way, and I was like no, that's fine I'll do it"*

(P34- Asian Pakistani female student)

Sub-theme 3.4 Cognitive CQ

Some students expressed their knowledge about variation in cultural norms. However, some raised the concern that their own cultural norms may not be understood by others, which could affect their judgment of them. Students expressed their general and specific cultural knowledge. The student in the following quote noticed the variation in norms between Malaysia and UK in allowing pedestrians to cross the street. She described this behaviour as "polite" and would never expect the same behaviour from drivers in Malaysia. Moreover, the differences in culture were described as a "way of living". The variation in their ways of living was claimed to affect how she participated in conversations and relationships with her peers in the group. She acknowledged that variations in the way of living can make individuals lack understanding of expectations. Additionally, she raised her concern that her colleagues may judge her life as "boring" because she does not do the same things they do.

"the way they live and the way I live is different … we have different ways of living … they talk about movies, they talk about their life, going out and having parties, and I was like ah, I don't know what to add because I don't do all these stuffs like I don't know what to add and then, some people might ask me what do you do

during night and I was just study and talk to my friends, for them there is nothing interesting like boring life, I would say … they are very polite … for example, if there is a car and you want to cross the road, they will let you go, but not in Malaysia"

(P5- Malay Malaysian female student)

Sub-theme 3.5 Motivational CQ

Students expressed their intrinsic motivation by showing their sense of enjoyment when they interact with students from various cultural backgrounds. The following quotes show how students enjoyed their interactions and gained cultural knowledge. Most students expressed their enjoyment with words like "interested", "nice", "happy", "enjoy", and "like".

Some expressed their sense of enjoyment by talking about their experiences in the group work. It was evident that most students found group work a medium to get to know new students from various cultures. Some students expressed their enjoyment in having conversations about cultures and how people live in different countries where they have different systems. One British student stated that her experience was positive, and she enjoyed learning from her Malaysian peers in the group.

"It's been good, enjoying it, like for PLM simulated pharmacy, we are there a lot of the time, it's good to know about their … backgrounds … in Malaysia … find out what they do, and how do they live their life over there, how different is and everything … overall, it's been really good experience"

(P31- White British female student)

Some showed their extrinsic interest by gaining benefit from intercultural contacts. It was frequently acknowledged that conversations were not always about work but can be about life opening their eyes to various experiences and perspectives; this is shown in the following quotes. The main benefit was learning and gaining cultural knowledge.

Intercultural contact seems to increase motivational CQ amongst students. Students expressed their intrinsic and extrinsic motivation. The learning about

other cultures was reported to happen in both parties. The student in the quote below expressed her enjoyment of her experience where she thinks students integrated well in her group.

"It's fantastic integrating with people who are not from your own culture because you learn a lot from them, they learn a lot from you, … and I like meeting people from different backgrounds"

(P25-1- Asian British female student)

Some students felt confident and motivated to ask about their peers' cultures. The example shown below reveals that the British student and her group members asked Malaysian students about general practices in Malaysia, such as festivals. Students asked about social norms to gain understanding about their peers' background. Interestingly, students discussed the variation in some social systems, such as law.

"… and we'd ask them to tell us about things that happen in Malaysia, like Malaysian festivals and things they celebrate, and things they do, what is the norm and I think that … but this broke down a lot of boundaries and us have more understanding of each other's culture"

(P28- White British female student)

Sub-theme 3.6 Behavioural CQ

Students acknowledged that meeting other students from different cultural backgrounds was "awkward" at the beginning. One student described the situation as "you get to know strangers". Another student described it as "forced" because they had not met each other before. Students had to work with each other for one year. Students worked on building their relationships with their team members. The following quotes described how students found the situations at the beginning.

*"At first it was just like **awkward** situation when you get to know strangers, but we kind of grew ourselves to build this bond together, so we kind of got to know each other's backgrounds first"*

(P10- Malay Malaysian female student)

Students showed that they developed familiarity after spending time with their groupmates. Most students described the experiences in terms of learning from each other and reported having cultural conversations and enjoyment from learning from each other as shown in the quote below.

"… everyone did their part, and everyone has the same understanding, everyone knew what they wanted to get out of the group work, so everyone has, we are all have common goals, umm yeah, we enjoyed the group work, there was ***a lot of discussion*** *of like, how life is like in Malaysia for the 2+2 students, or how life is there going back home"*

(P32- Indian British female student)

Some students consulted students from certain backgrounds when they needed to. One Muslim student expressed that her group members asked her about medications that can or cannot be taken during Ramadan. She believed the reason for their asking is her identity as a Muslim. Students used their colleague to give them advice as she was seen as an expert in that practice in their group.

"My groupmates were asking me because I am a Muslim as well, like is it fine to take insulin in Ramadan, what can you take and not take during Ramadan?"

(P13- Malay Malaysian female student)

Students expressed that they sometimes interpret the facial expressions of their peers. One Malaysian student raised her concern that some local students may perceive some Malaysians as not good enough because they may seem shy. Her interpretation could be affected by several factors, but it is not clear how and why the student reached her interpretation.

"They [British students] won't say like oh, you [Malaysian students] are so bad. No, they won't say it. But everything you can see from their expressions"

(P1- Chinese Malaysian female student)

5.3.4 Theme 4: The need for cultural training

The students' perspectives were explored to identify their feedback on the current teaching practices and possible opportunities for areas to be developed and improved. Students reported the importance of having intercultural contact and the structured activities were emphasised as initiating meaningful contact between them. Some difficulties were mentioned which suggests there are areas for improvement in the teaching.

Sub-theme 4.1 Forced interaction

Most students mentioned that interaction with students from various backgrounds took place in the fourth year because of having a simulated pharmacy and the need to work as a team. All teams were allocated by staff members to ensure mixing of students from different programmes of study (the UK programme and the 2+2 programme). It was surprising that students used the terms "forced" and "enforced" to describe their interactions.

> *"if I am in a group with them (2+2 students), I've got to work with them, otherwise I'm not getting that much [inaudible] yeah so it's a good way to integrate people together … I think that for the PLM module, it really* ***enforces*** *us, so it's a great way to like making people integrate with different people and learn about other people. So I feel like the PLM is great"*
>
> (P7- Black British male student)

The group work is designed to have an ice-breaker where students meet their teammates and start building their relationships with each other. The designed activity for this purpose was a treasure hunt in which students are asked to communicate with each other to give instructions and directions to go and search for clues and to find the treasure around Nottingham. Students had various views on the effectiveness of the ice-breaker in developing their connections. Some described the initiation phase as "awkward", while others found the activity to be stressful and recommended a relaxed activity instead. Students claimed that they were not sitting with their group members in the same place and therefore the person who gave the directions cannot see the other members.

"The treasure hunt, I didn't like the orientation, that wasn't good, it didn't make me go with my group quite well, … they put me off the whole year … people are just getting annoyed … I didn't find it fun, it's kind of ***awkward****, I don't think that's the best way to bond us in groups … sometimes stressful situations worsen you … I don't think they should be doing that orientation… I don't think that was useful, I think they should do something else … it was ridiculous activity, I am gonna be honest, but I don't think it was fine … it was just* ***awkward*** *… because we're fourth year, so we all made our friends … was a whole day"*

(P25-1- Asian British female student)

Other students showed positive feedback on the exercise perceiving the activity as allowing them to get to know their team members. They saw it as a point to start meaningful conversations as they had not spoken to each other before. Students also stated that if they had not been allocated to a group they would not have spoken to each other in the university. Students who expressed this view reported positive working relationships with their team members throughout the year.

"… they weren't the people who I used to hang around with in pharmacy, so the treasure hunt was a good way to like, kind of get to know them"

(P26- Indian British male student)

Another workshop was designed in the fourth year to enhance team building and to resolve issues when they appeared. Feedback from some students suggested that the workshop did not achieve its goal because students sat down with their own friends instead of sitting with their group members. The time given for this activity was spent on talking about personal interests rather than ideas for developing the team. The data suggest that students do not seriously consider potential issues that may arise in multicultural teams. It seemed that the second workshop was not seen as being as forced as the first orientation. Therefore, students decided to go to their comfort zone to escape any possibility of being uncomfortable. The data suggest that some groups do not have any issues in working as a team. Although some students acknowledge the fact that the workshop did not work well, they did not communicate their feedback to staff members to consider modification of the

activity. The reasons that prevented students from doing so were declared to be respectful of the effort put in to prepare the activity and the possible usefulness to some groups.

"it's quite depend on how each people want to get along with each other umm I would say be practical would be much better … it's really not worked for us [laugh] … in my group, we are just like tend to look at each other because we don't have much problem with, in our group … because some of them tried to sit back to their friends (not the group they work with as they were asked to sit with their assigned groups), … . Like in my group we are sitting talking a lot of [laugh], a lot of weird stuffs, like TV shows, or umm like for example those, food at Malaysia … [laugh] instead of, they want us to discuss what is the problem in your group, how are you going to face it when you have problem, so now take the time to converse with each group member… we were just like we are alright [laugh] we can just ignore these stuffs … everyone was like oh, talking to each other about like dress, skirts, and yeah things other stuffs … I don't think one of us reflect this to [name of a staff member] [laugh] because everyone was like he takes time to organise these things, ok, because apparently, umm there are problems with other groups like the communication problems… not really benefit at all [laugh] … But it would be better if we can in another like communication workshop maybe we can name it "get to know each other better"

(P1: Chinese Malaysian female student)

*"I think the second workshop **wasn't that helpful** because I just sat with my closest friend this year, but all the Malaysian students in my groups just sat together … but we are just, because we are **sitting down with our friends**, it wasn't helpful as a communication"*

(P2- Nigerian Black male student)

The group work was appreciated for being the reason for having intercultural contact. Being in a group to complete an academic task encouraged students to have conversations and develop relationships as a team. Some students used the opportunity of being in a multicultural team to ask about cultural differences. Students expressed that some were interested in other cultures

and in considering other perspectives whilst some showed their interest but doubt that other students are interested in their cultures. Some avoided asking questions to be polite and to avoid causing any offence to their peers. Students deemed these conversations to be an eye-opener and broadening their horizon.

"It can be difficult to ask questions and they don't want to offend anybody, they don't want to seem ignorant, so I think when the school, kind of, made us come in and gave us a list of questions to discuss and ask each other, it was much easier and I learned a lot from the other students, so I think more of that would be really good … yeah ***I would be worried about offending somebody"***

(P 30- White British female student)

Some students who raised concerns about their speaking skills valued the simulated pharmacy. It was believed that it provided them a space to practise and develop their skills before they practise with real patients.

"I think there was some struggle to communicate with them [patients], then I think because they have simulation pharmacy, so I think this is really helpful for us"

(P19- Malay Malaysian female student)

Sub-theme 4.2 Informal intercultural contact

Students acknowledged that they see the cultural differences and would have liked to have discussions to enhance their understanding. They had questions but did not find the right time to ask them and develop their relationship with them.

"I haven't got the chance to really ask them like culturally or what they do usually or what is the difference. I haven't got the chance actually"

(P9- Malay Malaysian female student)

5.4 Discussion

5.4.1 Facilitators of cultural intelligence

The perceived diversity

The findings suggest that students have contradictory views over the perceived diversity in the university. Students explicitly stated that the university is not diverse and questioned how the university is planning to improve this. It was not clear if students meant that there was no cultural diversity or that there was no meaningful interaction between students from various cultural backgrounds. This topic revealed that some British students from an ethnic minority had concerns; as one expressed it "*university is not what I expected to be up to. … it's quite segregated … but uni[verisity] cannot be prejudice, and judge people on their ethnicity or anything like that when they take them in*". Students expected the university to be free from prejudice and a place where all students develop their skills and knowledge by having equal opportunities.

It was acknowledged that diversity alone cannot result in meaningful contact as proposed in contact theory (Allport *et al.*, 1954). Student-chosen racial segregation, as the evidence in this study shows, may affect students' development of cultural intelligence. The term is used in the intercultural competence literature for limited interactions with students who are from different cultural backgrounds (Kwon *et al.*, 2019). By not actively seeking cultural information and using it, students may rely on their assumptions and unconscious biases when they provide care to patients in the future. Providing an environment that is inclusive and safe for all students to have discussions with their peers is seen as important in developing the cultural intelligence of future pharmacists.

The findings suggest that students from ethnic minorities developed their cultural awareness as they grow up and integrate it in their social actions. Interaction with students from various cultural backgrounds is sometimes understood by friendship groups. Friendship is usually built on shared interests and preferences which sometimes can be found in similar or different cultures.

Therefore, it is suggested that the learning environment has some facilitators for developing and improving CQ.

Allocated group work

Working in a multicultural group was found to improve the extent of intercultural contact. Evidence suggests that students learn from each other through cultural dialogue (Ott & Michailova, 2018). Spending time with the same group members was found to build familiarity with their peers and the familiarity with each other was believed to improve the interaction between students. The extent of familiarity seemed to be vaguely understood. Some students consider themselves “on the surface familiar” or “not that familiar”. This may suggest that intercultural contact increased the awareness of the richness of cultures. As developing cultural intelligence is a life-long process, students who develop awareness of this richness may continue to learn cultural knowledge. Some consider that cultural attitude is the foundation of personal development.

In the final year, students are allocated to groups to run their own simulated pharmacies in one of their modules (PLM). The group allocation is based on the criteria of the programme of study. Although students from the 2+2 programme join the UK programme in year 3, evidence from our data showed that students do not integrate well. The group work in the final year was described as being a “shock” by some participants as they speak to new students and find some of them are from different cultural backgrounds. The school arranged an activity as an ice-breaker (treasure hunt) to initiate the interaction within the team and help them build their team; students expressed both positive and negative views on the effectiveness of that activity.

The most recognised behaviour was shyness at the beginning. Familiarity is believed to improve confidence in speaking and interaction between students. However, this familiarity seems to be lacking when students interact with patients. It could be understood that the lack of familiarity with patients can affect the confidence of students. As one student described her colleague “*she is shy with the patients, but me and her getting on really well, and she wasn't*

shy with me, so I didn't know why that was". The variation in behaviour was evident although the student was speaking to native speakers in all situations. The difference was that she was familiar with her colleague, but probably not familiar with the patients. The non-native student may have been concerned about the language competence in communicating with patients, but she was comfortable with her colleague.

5.4.2 Barriers to cultural intelligence

The use of language

Learning in an additional language may affect how students see themselves. It can affect their confidence and thus their behaviour when doing things or speaking. The results of this study show that non-native speakers tend to compare their language skills to native speakers. The two language skills that emerged from the data which affected intercultural interaction were listening and speaking. Listening was claimed to improve with immersion in intercultural situations. Speaking skills were found to affect self-efficacy when students choose to participate or not in discussions based on their perceived competence, according to Bandura's social cognitive theory (Bandura, 2005). Similar experiences of finding the speech of native speakers to be too fast to understand was reported in an Austrian university with Chinese students (God & Zhang, 2019). That study revealed that comparison of language skills to native speakers' skills can make non-native speakers frustrated and see their language skills as being not good enough to communicate with native speakers. It was claimed that patterns of relationships between students are linked to the proficiency in the dominant language. The more non-native speakers are fluent in the dominant language, the more they build connections with native speakers and increase their social network. It was found that native and non-native speakers experience and interpret cultural differences differently. Native speakers were found to have a vague understanding of cultural differences and language. This perceived lack of confidence can lead to avoidance behaviour where students do not interact with their peers in intercultural situations. This behaviour can be perceived as a barrier to developing cultural intelligence between students in the course.

The native speakers in the current study observed that they only consider their speaking skills when non-native speakers notify them of non-understanding. This area could be understood from two points of view. Some may consider speaking clearly and slowly to non-native speakers as being offensive, as they should treat them equally and not assume that they are less capable of understanding. However, non-native speakers would appreciate it if native speakers consider speaking slowly and clearly. Both groups of native and non-native speakers were found to face some challenges in comprehension during conversations. Some students chose to reply with a polite answer such as “this is cool” but expressed their discomfort as they were not acting in a natural way, “not like myself”. Some who faced this challenge found that the other student cannot explain what they meant to say and it is hard for native speakers to understand and see no way of getting the message across that “we don't understand exactly what [laugh] they are trying to say, and they don't understand exactly what they are trying to say”. The expectation from native speakers is that non-native speakers should ask in that situation, but they acknowledge that “they are shy to ask”. Some native speakers were mindful in thinking from the non-native speakers’ perspective, as the situation can make non-native speakers feel silly if the native speakers do not understand their message. One native speaker expressed the situation as “you feel a bit silly they don't understand what you were saying when it's like I am trying to tell you something”.

Some can be mindful and check non-verbal cues for understanding and check by asking if the other student is understanding. One native speaker student said that she noticed if someone is not fluent in their speech and accordingly she used a simple vocabulary for them to understand, “I try to avoid … using difficult vocabulary when I'm talking with people whose language is not like, less than mine”.

The learning environment should be inclusive by considering challenges in the learning process. The literature reveals that in hospital settings using different languages from the dominant language can result in abuse and violence towards healthcare professionals who do not speak the dominant language

(Almutairi, McCarthy, & Gardner, 2015). Some patients showed their frustration when health care professionals were not able to communicate with them in their native dominant language. Some American staff members behaved in a non-professional way by threatening Chinese students who spoke their native language between them (CNN, 2019). It can be understood from these incidents that speaking a language that is not understandable in the dominant culture can be seen as a threat which might trigger unacceptable behaviours. It was suggested in a qualitative study with graduate students that the socialisation of international students with local students is linked with proficiency in the dominant language (Rose-Redwood & Rose-Redwood, 2013).

Self-perception

In the dataset, some international students from minorities tended to perceive themselves as inferior to their peers from the dominant culture. Some explanations mentioned were related to comparison with the language skills and the attitude from their peers. In the literature, similar findings reported that international students from minorities tend to think that staff members and students from the dominant culture treat them as being invisible (Zhang, 2016). Evidence from the current study revealed that students had similar experiences to those quoted in the literature. In my study, the views of students from the dominant culture (i.e. British culture) were sought in this area in addition to views of students from BAME groups. The findings suggest either students lack awareness of this experience or that other factors may lead students to express their views. The attitude of students from the dominant culture was expressed as being obvious in facial and non-verbal expressions. Some students explained that they had this view because their peers from the dominant culture did not use ideas in discussion although they acknowledged they were suitable for consideration.

Student-chosen segregation

The majority of students, in this study, deemed the course to be culturally diverse. However, it was acknowledged that students tend to segregate themselves with students who share ethnicity or language. One study

suggests that the level of proficiency in the dominant language is positively linked to socialisation in the dominant culture (God & Zhang, 2019). The author claimed that students who are fluent in the dominant language tend to make friends with local students, unlike students whose proficiency level is lower who were found to prefer making friends from similar cultures. It can be assumed that students' confidence motivates students to socialise and interact effectively with students who are from different cultures. This is supported by social cognitive theory (Bandura, 2005) as a person will choose to interact if they see themselves capable of managing the interaction.

Avoidance behaviour could be directed by variation in ethnicity which may lead to lack of trust or understanding. Findings from the literature suggest that patients prefer to be served by a pharmacist who shares a similar ethnicity or language (Duckett, 2013). It can be inferred that people may trust people more who share similar values. It can also be inferred that people may find understanding easier with people they share a similar ethnicity or language with than communicating with others who speak different languages. Sharing ethnicity or language suggests that the person is familiar with the other individual. Familiarity with cultural differences can be developed by meaningful contact with people from various backgrounds. However, given that lack of familiarity can be a barrier to meaningful intercultural contact, it is not sufficient to simply expect this to happen naturally and so educational opportunities can be created for students to develop their skills, knowledge, and mindset.

The barriers mentioned in this study can explain why students have high cognitive CQ due to prior experiences of cultural contact reported low behavioural CQ. Students reported that environment to develop meaningful intercultural contact was not provided. Some students from overseas reported not feeling welcomed and did not have the chance to experience local activities which limited their interaction and motivation to interact with students from different cultures. Therefore, the educational intervention in this research aimed to provide an environment where student could effectively interact to develop their CQ.

5.4.3 Cultural training

From the findings of the study, it was evident that students develop their cultural intelligence mostly during the final year when they were allocated to groups to work together for the whole year. Students were allocated to groups earlier in their course, but did not have the chance to work with their group for such a long time. The findings suggest that students need structured activities in the pharmacy programme to experience meaningful intercultural contact and develop CQ. The students from the 2+2 programmes join the UK programme in year 3. However, evidence shows that students interact and integrate with each other only in year 4. That is when they are allocated to groups to run their simulated pharmacies through the year. Moreover, students identified the need for training to work with patients from different cultural backgrounds. Pharmacy students interacted extensively with standardised patients in fourth year in addition to their prior experiences with actual patients. It must be noted that some situations showed gaps in students' skills in working with patients from various backgrounds.

There is a view that considers the dominant culture as the standard and people should adapt to the dominant culture to interact effectively. Proponents of that view considered that awareness in American culture is critical for any international students who consider pursuing pharmacy education in the US (Alsharif *et al.*, 2019). This position is based on the assumption that avoidance is interpreted as demotivation in the dominant culture (God & Zhang, 2019; Otten, 2003). It is suggested that some in the dominant culture lack understanding of the process of adaptation and variation in norms. Therefore, the training should not only focus on developing skills of those moving to a new environment to fit in the dominant culture, but also that a holistic view of values that triggers meaningful interactions should be promoted. Additionally, any challenges to intercultural interaction from any group should be addressed. Therefore the next study of this thesis considered an educational intervention that focused on overcoming the barriers of meaningful intercultural contact, as they were identified in this study and the previous one, regardless of which cultures of origin.

This study was the first qualitative study to explore CQ amongst pharmacy students. The qualitative approach provided deep understanding of factors that may facilitate or hinder effective intercultural contact and CQ development. Student who participated in interviews were recruited using convenience sampling technique which is susceptible to selection bias. Views that were reported may not reflect the views of other final year students or pharmacy students in the same university. Students who participated may have high motivation and understanding of the topic which may affect their responses. Data collected were filtered by students' memories and may have not captured all the related information. I noticed in the field notes that students who interviewed by telephone were more open to discuss current status of cultural training and their cultural intelligence which can be explored further.

5.5 Chapter summary

This chapter presented the results of 35 semi-structured interviews with final year pharmacy students. The interviews were conducted to explore in-depth reasons for students' opinions on cultural training. Factors that enhance or hinder effective intercultural interaction were explored. Students acknowledged the impact of group work in the final year in developing their cultural intelligence. Barriers to effective intercultural interaction were related to student-segregation segregation and perceived competence. The findings were used to inform the design of an educational intervention that is described in the following chapter.

Chapter 6. Educational intervention

6.1 Introduction

This chapter presents the design of an educational intervention to improve students' cultural intelligence. The intervention offered two activities that were designed to improve intercultural interaction with students and patients. Discussion of the piloting of the intervention and the results is provided.

6.2 Methods

The design of the educational session was based on the needs reported in the results from the two previous chapters of the thesis (Chapters 4 and 5) in addition to the literature. The findings of the questionnaire and interviews studies suggest that students lack cultural knowledge and have a tendency to avoid meaningful contact with students from different cultures because of feeling uncomfortable. Cognitive CQ was the lowest factor of CQ in the student cohort. Interestingly students who had high level of cognitive CQ reported low level of behavioural CQ. Even though students showed high motivational CQ in those studies, they seem to lack a strategy to develop their relationships with students as they stated they "do not know how to". Findings of the interviews revealed that students avoid interaction with their peers from other cultural backgrounds unless they have structured educational activities. Although lectures can be useful in developing cognitive skills (Long, 2012), skills needed to gather knowledge seem more useful than providing cultural facts about groups. Moreover, essentialism is not recommended in teaching as it may encourage stereotyping, as discussed in Chapter 2. It is widely accepted in educational research that students learn through concrete experience and reflection, as supported by experiential learning theory (Kolb, 1984). Barriers to developing CQ in students include discomfort during intercultural contact and student-chosen racial segregation. The educational intervention focused on two areas, improving skills for students' engagement to support meaningful intercultural contact, and preparing students to practise as interculturally competent pharmacists. Therefore, two teaching activities

were designed and offered in a workshop to serve these aims. By providing structured activities with feedback, students can feel comfortable in conversing with their peers from different cultural backgrounds. Students can gain cognitive CQ through asking questions that can have impact on their behavioural and motivational CQ. Additionally, practising with simulated patients can develop students' familiarity with cultural needs and ways of addressing them. A supervisor (MB) attended the two sessions as an observer and students were made aware of his presence and that he was not there to observe or evaluate them. I asked MB to be present to provide me with feedback on the workshop and he did not have an active role in delivering the workshop.

The literature lacks evidence that supports the most effective teaching method for cultural education. The workshop was chosen to deliver cultural training where students could have discussions in small groups and learn from each other. Moreover, it was reported as the preferred form of training, as the questionnaire results showed (as reported in Chapter 4).

The educational intervention were informed by the literature in addition to findings from the previous two studies (Table 26). The design of this intervention and the learning objectives were guided by the theoretical framework of the thesis which emphasises three phases of intercultural contact to be targeted by cultural training as well as findings from the questionnaire and interviews The approach phase is concerned with continuously gathering social and cultural data that need interpretation in the existing mental models to respond to culturally diverse situations. Beliefs and assumptions of the person can affect their motivation to engage in certain situations. For example, if a pharmacist sees an elderly patient using a number of medications for years, it is likely that the pharmacist will assume that the patient knows how to take the medications and needs no counselling.

Table 26. Brief description of the educational intervention design

Element of the educational intervention	**What did inform the design?**
The format	In the questionnaire, students reported that they preferred workshop to deliver the intervention
Speed networking	The choice of this activity was informed by both findings from questionnaire and interviews in addition to data from the literature. Questionnaire findings suggested that some students who had high cognitive CQ reported low level of behavioural CQ and may lack the skills that help them understand how they can interact effectively with their peers from different cultural backgrounds. Students reported, in interviews, that they may need structured activities and an environment where they feel encouraged to interact with their peers to expand their understandings and foster their skills. The study showed that most students had limited interaction with students from different cultural backgrounds The speed networking provided a way to overcome limited interactions between students and enhance students involvement during consultation (Muurlink & Matas, 2011; Naylor, Lucas, & Isreb, 2015).
Role-play	The choice of this activity was informed by both findings from questionnaire and interviews in addition to data from the literature. Findings from interviews identified needs to address the ICC with patients and its relation to therapeutic plans and communication. The design was also influenced by the literature that support identifying and meeting needs of patients on individualised way (Long, 2012). The approach, analyse act framework was adapted from the literature to train students on developing CQ through patient-pharmacist encounters (Griffith *et al.*, 2016).

The second phase is related to how an individual analyses the gathered data based on their knowledge base and their mental model. In a pharmacist-patient encounter, the pharmacist needs to recognise what cultural needs that may have to be acknowledged, discussed with patients if necessary, and addressed in the therapeutic plan.

The third phase of intercultural contact is act, where a person behaves effectively based on their motivational, cognitive and metacognitive CQ. This phase is of paramount importance as a pharmacist can develop trust with a patient by selecting an appropriate communication style. Also, making decisions on medications that are appropriate can impact health outcomes.

The following learning objectives were chosen to increase recognition of how behaviour is affected by cultural backgrounds. The impact of behaviour on patient care is an important aspect for students to consider through a practical session. The learning objectives were: (1) to critically discuss how beliefs and assumptions affect how people interact with each other, (2) recognise cultural needs in a patient encounter, and (3) demonstrate an appreciation of how effective communication impacts upon a patient's experiences and their health outcomes.

6.2.1 Speed networking

The teaching strategy used an ice-breaker referred to in the literature as speed networking or academic speed dating (Muurlink & Matas, 2011; Naylor *et al.*, 2015). A review of using this strategy in higher education suggests that the first use in academia was in 2005 and revealed six motivations for using that tool (Muurlink & Matas, 2011). These motivations are 1) establishing inter-disciplinarity in research, 2) providing an ice-breaker for isolated researchers, 3) improving dynamics in class, 4) connecting a university with external parties, 5) increasing funding, and 6) guiding the matching between postgraduates and supervisors. It can be said that most of the motivations found in the review aimed at enhancing social networking to improve well-being and communication skills. The tool has been adopted by the universities of Bristol, Bradford and Manchester in the UK in an attempt to overcoming

social isolation in higher education (Muurlink & Matas, 2011; Naylor *et al.*, 2015). The tool was used with pharmacy undergraduate students in the University of Bradford to enhance patient involvement in consultations (Naylor *et al.*, 2015). Details of the effectiveness of the tool were not published. However, it was used in the workshop to stimulate the intercultural interaction between students.

Results of the first two phases of this study showed that the majority of students (n = 47, 57%) reported that interaction with students from different cultures was believed to expand their knowledge. Therefore, the workshop started with an ice-breaker that asked students to interact with the students that they knew the least. Previous data showed that students tend to form their relationships with students who share similar cultures or language as some students (n = 14, 15%) reported that they tend to avoid socialising with students who speak a different language to them. One third of the sample (n = 32, 33%) prefer to do things with people from their own culture; just above three quarters of the sample (n = 74, 77%) agreed that they would like to have more activities to engage with students from different cultures.

6.2.2 Role-play

Role play is a low fidelity simulation technique that is proven to support deep learning (Long, 2012). It provides students with a safe environment for learning where students can make mistakes and obtain immediate feedback without affecting patients or their own academic level. The feedback allowed students to understand the nature of cultural differences in an ethnorelative way and different perspectives in addressing the issues. Students practise the involvement of the patient in decision making by providing a comfortable environment for them to express their views regarding their health and illnesses. Role play serves as a good medium for practising negotiation skills, which is a key skill of interculturally competent pharmacists. The stages of communication between pharmacist and patients were presented using the approach, analyse and act framework, as described in Table 27 below.

Table 27. Stages of intercultural communication in pharmacy practice

Approach	**Analyse**	**Act**

• Smile to every patient to make them feel welcome
• Greet the patient and ask how you can help
• Use appropriate tone of voice and body language
• You will have some labels about the patient, they are useful but don't take them further to stereotype for example, skin colour, the proficiency of language they speak, clothes or other symbols
• Treat the person as an individual (not part of a social group where you apply assumptions)
	• Establish rapport and trust
	• Actively listen to the patient's enquiry or concern
	• Maintain the appropriate tone of voice
	• Use appropriate eye contact
	• Ask open questions to understand the patient's cultural need
	• Check your understanding of the patient's cultural need
	• Re-assure the patient if needed by showing respect and understanding of their cultural concern
	• Be aware of non-verbal clues:
	  • understanding
	  • discomfort
		• Involve the patient by asking about
		- preferences
		- dietary needs
		- route of administration
		- frequency of dosage
		- other choices
		• Negotiate with the patient, if needed (when the patient has different health beliefs)
		• Treatment decision should be informed by cultural and clinical needs.

The content of the role play consists of three cases where students were asked to role play the patient, the pharmacist and the observer roles. The cases were designed to address cultural dilemmas in pharmacy practice (Appendix 11). The first case scenario was about dealing with delivering sensitive information when the information is assumed to be clear. The second case focused on how students respond to culturally sensitive needs in the presence of ambiguity. The third case concerned handling cultural needs with an angry patient.

6.2.3 Data collection

An invitation email was sent to all fourth year MPharm students (n = 242) at the University of Nottingham UK campus on 28 March 2019 by MB (Appendix 12). I did not have access to students' email addresses and thus MB sent the email. Two dates for the sessions were chosen based on a discussion with teachers at the School of Pharmacy to ensure students availability. Interested

students were asked to sign up using doodle.com. The two sessions were chosen to be offered on 3rd and 10th April 2019. There were minor changes done to the introduction of the intervention based on feedback in the first session. The feedback and amendments were discussed in section 6.3.2.

To determine whether or not the educational intervention affected students' cultural intelligence, the CQS (Appendix 13) was completed before and after the intervention. Additionally, a short questionnaire about the teaching session (Appendix 14) was completed asking their views about the session and demographic data. Since the CQ data was collected using a Likert scale, the reported variables are not continuous. Ideally, a non-parametric test should be used for analysis of ordinal variables. However, a paired t-test was chosen to compare the means of the pre- and post-intervention data because they can be paired and the findings can be compared with previous studies that used a paired t-test for the evaluation of educational interventions.

6.2.4 Structure of the workshop

1- Welcome and pre-intervention survey
2- Background of the topic and general introduction
3- Ice-breaker activity
4- Role play activity
5- Class discussion and post-intervention survey

Welcome and pre-intervention survey

During the session the aim of the intervention was re-stated and the participation in completing the questionnaire was explained as being voluntary. I introduced myself and the PhD project. Students were given a chance to ask questions if they needed any clarification.

Background of the topic and general introduction

A briefing on the concept of intercultural competence and health inequalities was presented. The introduction used interactive cases where students were given cases to discuss the unconscious biases of pharmacists in patient-pharmacist encounters. Assumptions made by a pharmacist in each case were

discussed and it was explained how they affect the decision and treatment outcomes of patients. The concept of intercultural competence was introduced as being strongly linked to communication skills and cannot be considered as a separate concept. Therefore, each interculturally competent pharmacist is a good communicator, but not all good communicators are interculturally competent pharmacists. Pharmacy students were encouraged to apply intercultural communication skills in all cases on an individual basis and needs.

Ice-breaker activity: Academic speed networking

The aim of the first activity was to work as an ice-breaker and to stimulate the exchange of cultural knowledge and reflect on personal cultures and their impact on communication. Developing self-awareness is considered the first step in developing ICC. Students were encouraged to ask each other questions about their backgrounds. One to one discussions provided students with a chance to practise their communication skills and allowed them to learn from each other as they compared and contrasted ideas (Lipson & Desantis, 2007).

Students were asked to work with the person they knew least. Then after five minutes the activity was repeated with the second least known person. Instructions on what to ask and the time allocated for this activity were shown in a slide to guide students during the workshop. The room was arranged before the session with two rows of chairs and six tables, students sat in the rows during the introduction. Then they were asked to sit at the tables; each table had two different coloured chairs (green and black). Students who sat on the green chairs were asked to move after five minutes, while students on the black chairs remained in their places. The students were asked to introduce themselves and explain how their backgrounds affected their assumptions of the world and how this may affect their interaction with patients. Students were encouraged to ask each other about their backgrounds and practices.

Role play activity

The aim of this task was to observe how pharmacy students handle culturally sensitive situations with patients, and in addition to discuss different

perspectives in caring for patients from various cultural backgrounds. According to the numbers in each session, the students were asked to work in pairs in the first session and in trios in the second session where students act as patient, pharmacist, and observer. I acted as an observer in the first session. MB and I acted as observers in two groups in the second session. The student who acted as a patient was given a prescription and briefing on what they are supposed to say in response to any questions they might be asked. The pharmacist was provided with a copy of the British National Formulary (BNF) to look up the information on medication if needed. The observer was given the list of questions that should be asked during the interaction and suggested answers. The observer was asked to assess the interaction and analyse the decisions made. Based on the number of the students in each session and the time taken to discuss the cases, each group was given two or three cases to discuss.

Since the aim is to deliver person-centred care, no “dos and don’ts” checklists should be followed for every patient. Therefore, education is directed toward developing skills in asking questions to collecting relevant information, paying attention to cues during the interaction, and involving the patient by expressing respect and active listening in response to patients’ concerns. The pharmacist should make sure the consultation is person-centred and the patient is supported throughout the process.

Class discussion and post-intervention survey

All groups were invited to reflect on how they acted during the case role plays. I facilitated the discussion in considering potential perspectives and thoughts about possible alternatives in each case. At the end of the session, students were given the CQS and feedback questionnaires to complete (Appendices 13 and 14). Matching of responses was done by assigning numbers to students. The feedback questionnaire included questions about the workshop in general and specific questions on each activity. For instance, students were asked about their agreement on the following statements: “overall, I feel the workshop stimulated me to think effectively about cultural differences” and “I think the first activity was engaging”.

Descriptive statistics using SPSS version 24 were produced for demographic variables and CQS factors. To evaluate the effectiveness of the intervention paired t-tests were used to compare the means of pre- and post- intervention factors. Although the variables are not continuous, the t-test was used because it is a paired test which allows comparison with results in the literature and has been used in previous studies (Abdien & Jacob, 2018; Bücker & Korzilius, 2015; Eisenberg *et al.*, 2013; MacNab, 2012; Nguyen *et al.*, 2018; Wood & St. Peters, 2014). The open questions in the feedback questionnaire were analysed thematically.

6.3 Results

Overall, 14 students participated in the two sessions of the intervention and responded to the CQS. Four students attended the first session. All were female and from Malaysia. For the second session ten students attended although two students arrived after the introduction, but they joined the ice-breaker and the role-play activities. Students were from various cultural backgrounds. A description of students who participated in the workshop is presented in Table 28. As the evaluation is a pilot, the sample was small and not designed to detect differences across groups.

Table 28. Demographics of participants (n= 14)

Variable *(N)*	**N**	**%**
Gender *(n=14)*		
Male	1	7
Female	13	93
Ethnicity *(n=11)**		
White	3	27
Asian	8	73
Home country *(n=9*)*		
UK	2	22
Malaysia	7	78
Religion *(n=13)**		
No religion	4	31

Muslim	7	54
Buddhist	2	15

*Numbers do not total to 14 due to missing responses

6.3.1 Evaluation of the intervention

The results of the paired t-test showed that the difference between the pre- and post-intervention groups is statistically significant for the CQ and all its factors (overall CQ: t = -4, p = 0.006; metacognitive CQ: t = -4.3, p = 0.001; cognitive CQ: t = -2.3, p = 0.036; motivational CQ: t = -2.5, p = 0.027; behavioural CQ: t = -2.4, p = 0.035) (see Table 29).

Table 29. Result of the intervention (n= 14)

Variable	N	Pre-intervention	Post-intervention	Difference	t	*p*- value
		Mean (SD)	Mean (SD)			
Metacognitive CQ	14	4.6 (0.86)	5.5 (0.92)	0.9	-4.3	0.001*
Cognitive CQ	14	3.5 (0.69)	4.1 (1.1)	0.6	-2.3	0.036*
Motivational CQ	14	5 (0.71)	5.5 (0.93)	0.5	-2.5	0.027*
Behavioural CQ	14	4.7 (1.02)	5.3 (0.81)	0.6	-2.4	0.035*
Overall CQ	14	4.4 (0.58)	5.0 (0.72)	0.6	-3.3	0.006*

*Stands for $p < 0.05$

6.3.2 Feedback on the intervention

The feedback on the first session reflected the enjoyment of students and indicated some areas for improvement, such as clarity of the introduction with elaboration about the topic. All 14 students who participated in the workshop completed the feedback questionnaire. Students' feedback was positive in both sessions as all results were on the strongly agree and agree options with no students selecting strongly disagree or disagree (Table 30). All students who participated in the workshop agreed or strongly agreed that the workshop

stimulated them to think effectively about cultural differences. Additionally, the same response was reported for acknowledging the discussion as useful.

Table 30. Feedback on the intervention (n= 14)

Statement	Disagree	Neutral	Agree
Overall, I feel the workshop stimulated me to think effectively about cultural differences.	0	0	14 (100)
I think the first activity was engaging.	0	2 (14)	12 (86)
I felt comfortable in asking questions about other cultures.	0	2 (14)	12 (86)
The discussion of case scenarios is useful.	0	0	14 (100)
I am able to think about the situations from a patient's perspective.	0	1 (7)	13 (93)
I feel confident in communicating with patients who have cultural differences.	0	4 (29)	10 (71)

Results are presented as n (%)

Feedback on the first session was used to make some amendments to the workshop. Some slides were added to the second session and clarification of the purpose of the workshop was provided. The emphasis was changed to providing person-centred care by suggesting advice for communicating with patients on an individual basis rather than categorising people into cultural groups and seeing a patient as a member of a group. More cases were added to the introduction to clarify the assumptions which can be made in pharmacy practice.

Additionally, students in the second session were asked to vote (using online polling) regarding comments made in the first session. The first question in the poll was "*can we categorise all cultures in the world and have a list of the categories"* Five students answered no, and two students answered *maybe*. The second question concerned factors that should be used to categorise cultures. The answers were displayed in real time as the students responded. Some students responded more than once, which may be because they were motivated to share their ideas. The results appeared in a form of a word cloud where each word was considered a separate response. For example, if students wrote *geographical location*, the response would be treated as two

responses, that is, as *geographical* and *location*. Overall, there were nine factors considered important to refer to cultures: language, religion, sexual orientation, geographical location, history, life experiences, age, beliefs, and taboos; language was the most frequently occurring factor (see Figure 16).

Figure 16. Responses to the question about factors that can categorise culture

Feedback about the open questions showed that students liked the scenarios the most. It was acknowledged that their awareness increased because the case scenarios were new and challenging to them. They reported that the slides on communication skills were already known to them. The areas for improvement were identified as: slides, a clear list of cultures and their practices, and duration of the workshop and discussion. Students seemed to have contradictory views on the time needed for the tasks and discussion. While some students advocated more time for the workshop, some thought the time for the tasks could be shortened. One student recommended having the workshop with students from different years to share their experiences as she stated *"I know time is a factor but having more of these workshops will be really helpful. And tell people to share their experiences with their friends to encourage them to attend the other ones being run"*. Students showed their appreciation for the workshop verbally by asking MB to include it on their programme and one student expressed her appreciation in the questionnaire as she said *"thank you so much for the experience/opportunity"*.

6.3.3 Class discussion

I facilitated the class discussion after the workshop and here I report my reflections on the discussion. Students in the first session were open in sharing their experiences. They commented that the cases were challenging; they also enjoyed the first activity and gained some knowledge from their peers. Some students commented that although they were from Malaysia, they had different experiences in different cities and backgrounds. One student talked about her identity being from a family of a Chinese mother and an Indonesian father. She explained the differences in upbringing and expectations of people by having a Malay name but looking Chinese. The religious upbringing was a point a student discussed, but she did not say why she mentioned it. The second group mentioned that being from a small town with no people from other cultures living there, people are not open to different cultures. I asked them how they would look at people from other cultures and they stated that they would not respect them. Then we discussed how this would be handled in pharmacies. They revealed that they might even trick patients into paying more because they are foreigners. I mentioned that this practice is seen in restaurants and cafes sometimes when we travel to foreign countries, but it is interesting to see it in pharmacies. I am used to seeing prices printed on medicines and checked if this is the case in Malaysia. They said that even if the price is printed on it, they will find a way to increase the payment, for example by saying the price just changed recently. Overall, students reported that they had started to examine their behaviour and assumptions and question them.

Students in the second session were reluctant to share their ideas at the end of the workshop which could be related to the relatively large number of students in the workshop. Only four students were in the first session which may have made the discussion easier for them. Ten students were in the second session and they might have seen this as a class discussion rather than a small group discussion and may have hesitated to share ideas with this large group of students. I tried to stimulate the discussion by sharing my experiences of being a pharmacist from Saudi Arabia and dealing with herbal

medicines, which are not approved there. One student showed her concern about not recommending herbal medicine to patients in Malaysia, as they strongly believe in herbal medicine. If a pharmacist, in Malaysia, does not emphasise the benefit of herbal medicine patients may not respect the pharmacist's knowledge.

I was the observer for the two groups during the role play in the first session. Therefore, some details could have been missed because I did the observation for both groups at the same time. Overall, students in both sessions found the emergency contraception case the most challenging case. In both sessions the students who acted as the pharmacist felt they needed to state their opinions and views and asked the patient if she had discussed the idea with her husband. They acknowledged that the issue would affect both of them for a long time. One student tried to give advice by putting herself in the shoes of the client. She said, "if I was in your position, I would speak to my husband and raise the concern about using contraception". Students acknowledged that the issue is not straightforward. However, they tend to overlook the importance of adhering to the religious practices of the client, although in discussion it was acknowledged that the patient is not strictly adhering to religious practices if she came to the pharmacy to obtain emergency contraception. It might be the urgent need that made the woman want to use a product that is not allowed in her religious beliefs. The need to increase the awareness of the client about the issue was agreed by all students.

Another student mentioned that the patient should speak to someone responsible in their church. When students were asked about how they think the patient will take their advice, one student said she would not mind about what the patient feels, she should give her own view. She said that she will say what she personally thinks must be done in this case, but it is up to the patient whether she takes the advice or not. They considered emergency contraception as not solving the patient's problem and there are other things that can be done. Students were trying to solve the patient's problem and found it challenging because the idea was new to them.

6.4 Discussion

This educational intervention was designed to enhance final year pharmacy students' cultural intelligence. Evaluation of the difference in cultural intelligence level before and after the intervention suggests that the intervention led to an increase in cultural intelligence. Results of previous studies found that interventions did not always significantly increase all factors of CQ (Eisenberg *et al.*, 2013; Wood & St. Peters, 2014). For example, behavioural and motivational CQ did not improve after introducing a course of intercultural communication of one to 12 weeks to Austrian students in a business school (Eisenberg *et al.*, 2013). A short study trip overseas for 11-12 days did not improve the behavioural CQ of MBA students at Taylor University in the US (Wood & St. Peters, 2014).

Not all studies reported an increase in ICC level after cultural training. Nursing students who received cultural training reported a lower confidence level than others who did not receive cultural training in their course (confidence using CSES) (Alpers & Zoucha, 1996). Medical students in years 3 and 4 showed a lower level of ICC than students in year 1 (White-Means *et al.*, 2009). First year pharmacy students in the University of Texas did not report a statistically significant increase in their perceptions about cultural diversity after spending 18 hours of service learning (Barner, 2000). One explanation for these findings could be an overestimation of students' perception prior to having the intercultural contact. Students develop their awareness and consider their limitations after they experience intercultural contact in their profession.

The differences between pre- and post-intervention values for means scores of CQ and its four factors could suggest that the intervention positively increased the cultural intelligence of participants. The research participants generally seemed motivated about the topic. Given that the intervention had a positive impact on culturally motivated students, it needs to be tested on a large group of students who may have various levels of CQ and motivation. The results of paired t-tests showed a significant improvement in overall CQ and its four factors. The results of our intervention are similar to previous studies in that it produced a positive impact on CQ although different in the

sense that all four factors of CQ improved (Eisenberg *et al.*, 2013; Wood & St. Peters, 2014). This may suggest that the current intervention led to growth in cultural knowledge and motivated students to strategically behave in an effective way in intercultural situations. The richness of the intervention may not be related to the length, but to the type of interactions between students. Our intervention was two hours and the intervention of Eisenberg *et al.* (2013) was one course that varied in length between one to 12 weeks. Details of the activities pursued during their course were not published.

As this is the first study to use the CQ model in pharmacy education, the results were compared to studies that assess ICC. The results differ from those from some longer educational interventions in pharmacy education (Assemi, Cullander, & Hudmon, 2004; Sales *et al.*, 2013). In these studies, students were exposed to a series of activities in courses. However, the level of ICC was resistant to improvement. This could be related to a lack of real-life situations in the training. Only one activity of role playing to elicit patient information using certain models was used. Students practised by following the standard models but did not judge the situations or apply their skills and knowledge.

Students commented after the session that it did stimulate their thinking and it was challenging at the same time. Some of them mentioned that they realised that they needed to know more about cultural differences. Students' reactions towards the training session were similar to those in previous studies (Fischer, 2011; Nguyen *et al.*, 2018). For most students it worked, as some researchers argue, as a "reality check", in which they started reflecting on their current competence and identified required improvement.

The speed networking activity has been used effectively in research to overcome the issue of social isolation of postgraduate students (Muurlink & Matas, 2011). It was used in the current intervention as a strategy to overcome the issue of student-chosen racial segregation and improve engagement with students. Observation of students during the workshop revealed that they did not hesitate to interact with their peers and were motivated to ask personal questions, showing their curiosity. One group started a conversation by

speaking in their native language at first then used English. This observation may suggest that students may have a preference to speak their native language to establish relationships with peers.

The experience of third year pharmacy students at Bradford university with the speed networking strategy to enhance patient involvement and thus provide patient-centred care, suggests a positive impact on learning; however, a detailed evaluation was not published (Naylor *et al.*, 2015). Speed networking has been regarded as an effective learning strategy to enhance students' engagement and overcome social isolation in a higher education setting (Muurlink & Matas, 2011). The ice-breaker – in this study - was aimed at putting theory into practice and to provide students with first-hand intercultural contact in which they could openly ask questions and discuss other perspectives without fear of causing offence. Students started the task without hesitation and their body language reflected their motivation. The task was acknowledged by students as increasing their self-awareness.

The use of role play simulation was reported to increase confidence in communication in pharmacy research in Australia and the US (Fejzic & Barker, 2015; Fejzic, Barker, Hills, & Priddle, 2016; Shrader, Dunn, Blake, & Phillips, 2015). It is particularly linked to increased CQ in undergraduate students in the Netherlands and France (Bücker & Korzilius, 2015). Role play as a teaching strategy was considered effective in developing intercultural skills in nursing education as students emotionally respond to verbal and non-verbal behaviours (Shearer & Davidhizar, 2003). It is suggested that role play supports different learning styles as some students learn "by doing" and some learn "by observing". In the current study, the workshop resulted in a statistically significant increase in motivational CQ which includes self-efficacy as a sub-dimension. The instructions in one study (Fejzic *et al.*, 2016) where the scenario scripts were given to students to follow strictly, and told that facilitators would interrupt if students related the scenarios in their own way. However, in the current intervention, students were given instructions and the students who acted the role of pharmacist were asked to improvise the action. The feedback would be provided by the observer, based on the given

instructions. Most students commented that the scenarios were challenging and that they had acted in the way they normally would.

Role play does not on its own result in a positive learning experience. There are some strategies that need to be applied skilfully by the facilitator (Shearer & Davidhizar, 2003). The learning objectives were communicated to the students in the invitation email and restated at the beginning of each session. Instructions about what to say and how to give feedback were written in detail to students who acted as patients and observers. The immediate feedback helps students to think about the steps they followed in their decisions and behaviours. The fact that the situation is role play takes the pressure off students to be absolutely perfect since they know no one will actually be harmed if they make a mistake during the workshop. Role playing the situation is safe in terms of making mistakes and obtaining immediate feedback. There is no harm for the students academically or clinically. The workshop was not graded and the person who acted as a patient was not a real patient. Students learned from the discussion with their peers in describing the actual performance and where behaviour can be improved.

The class discussion which followed revealed that most students tended to give personal advice for the emergency contraception case. Some students recommended that the woman speak to her husband and informed her about her decision, as pregnancy concerns the family and not only the woman. Some recommended speaking to a religious person for consultation as the issue of unwanted pregnancy may occur again and the measures already taken may not be enough

Responding to patients in an appropriate way was considered to be difficult if the patient is angry. Some students raised the concern that saying some phrases to show empathy may make the patient upset as they may think these statements are clichés. Examples of statements to show empathy are “sorry to hear that” and “I understand how you feel”. The importance of empathising by showing non-verbal signals such as mirroring the emotions, tone of voice and eye contact were discussed. By actively listening to the patient, the pharmacist can identify their concerns or needs. They can clarify them by

asking tailored questions. Asking about drinking habits was seen differently by students. Some students mentioned that any patient in the UK would expect this question. The awareness of how backgrounds and early life experiences can affect patients' expectations needed to be discussed. The advice was to make the recommendations in a general way without asking questions.

It was not surprising that students found empathising with patients from different backgrounds challenging. Showing empathy requires sharing the same understanding, feeling, and meanings with another person. Wang *et al.* (2003) used the term "ethno-cultural empathy" to refer to empathy towards people from different ethnic and cultural backgrounds. Women reported higher ethno-cultural empathy than men in expressing their feelings and awareness and in this study more female students volunteered to participate in cultural training session than male students.

This educational intervention was research-based and resulted in a positive increase in CQ amongst final year pharmacy students at the UoN. This intervention was based on a framework that was developed in this study and was not validated in pharmacy. The intervention was delivered twice and the feedback on the first session was used to develop the second session. The study was limited by the small number of students who volunteered to take part of the study.

I designed the cases in this study based on cultural needs in the UK and these needs could differ in other countries based on the communities and their practices. Case studies can be improved in future by including a variety of cultural needs. Students needs to be encouraged to clarify cultural needs with patients and address them in the therapeutic plans.

6.5 Chapter summary

This chapter described the process of designing an educational intervention to enhance pharmacy students' CQ. The intervention was piloted with final year pharmacy students as an optional workshop on two occasions. The evaluation of the workshop suggest that the intervention increased the CQ

level and its four factors. The workshop was seen positively by students and the observer. Students reported their enjoyment and learning from these challenging situations. The differences between pre- and post-intervention in CQS were statistically significant for the overall CQ and all its four factors. Although there was no control group to adjust for the impact of other factors, the intervention seemed to enhance students' cultural intelligence in all its dimensions. The following chapter discusses the key findings of the thesis and future implications.

Chapter 7 Discussion and conclusion

7.1 Introduction

This final chapter presents the key findings that were identified in the three phases of this study and how they interrelate and fit in the literature. The implications of findings to teachers, students, and policy makers are also discussed. The strengths and limitations of this study were acknowledged. The chapter ends with a conclusion of the thesis.

7.2 Discussion of key findings

The overall aim of the thesis was to assess the students CQ and their needs for cultural training to guide a curricula change. Five aims were addressed to produce the curricular change: 1) to measure final year pharmacy students' cultural intelligence; 2) to explore reasons for the measured CQ; 3) to explore students' views about cultural training needs; 4) to explore students' views on educational intervention; 5) to pilot and evaluate an educational intervention to increase CQ.

The theoretical framework was developed to understand contextual factors that aid or hinder the development of CQ through effective intercultural interactions to guide the development of cultural training. Students who had informal intercultural contact were more knowledgeable about cultural norms, values and practices. On the other hand, students who moved to another country found behaving effectively in culturally diverse situation challenging. The study found ethnicity to play a significant role on the level of CQ. White students showed the lowest level of cognitive CQ compared with Asian and students from other ethnicities. This can be related to prior experiences of intercultural contact as the study was conducted in the UK. It seems that Asian and students from other ethnicities have interacted with people from different cultural backgrounds more than white students. Academic activities can be a major influence to produce more informal intercultural contact. UK based and

2+2 students developed their working and social relationships as a result of working in mixed teams in simulated pharmacies for the final year.

Students seem to develop their CQ in individualistic ways based on their engagement with situations and prior experiences. Although many opportunities were available for students for the development of CQ, there is still a need for educators to provide a space for cultural learning and development. Contextual factors that impede effective intercultural contact include negative perception of the surroundings, student-chosen racial segregation, language barriers, and attitudes of others. Many facilitators were identified, such as group work, speaking more than one language, and experiences of living abroad. These findings are similar to those of a previous studies (Crowne, 2008; Ott & Michailova, 2018; Solomon & Steyn, 2017). Although 2+2 students reported having greater cultural knowledge than their peers did, UK based students seem to behave more effectively in culturally diverse situations than 2+2 students. Interviews revealed that some may have perceived inferiority as they compared their knowledge and skills with UK based students. Students valued interactions with students from other cultural backgrounds, but acknowledged that structured activities would provide them with a space where they can broaden their horizons through asking questions and talking about themselves as they tended to have limited interactions with unfamiliar students. In addition, they acknowledged that having discussions about the application of intercultural competence to patient-pharmacist encounters can improve their confidence in caring for patients from diverse cultural backgrounds. Certain factors that were not related to the university or the academic environment were found to impede effective intercultural contact. For example, perceived inferiority, ethnicity, or language were linked to student-chosen racial segregation. Universities have considered strategies to improve intercultural contact that can foster the development of CQ (Smit, 2012; Valencia, 2012). Strategies seem to follow two pathways, either advocating policies that value diversity in general or considering students from disadvantaged backgrounds to have certain issues that need to be fixed, which is commonly referred to as the “deficit thinking model”. Asian scholars presented student-chosen racial segregation as a coping mechanism to racial

discrimination on campus which needs institutional change (Guo, 2007; Kwon *et al.*, 2019).

A good comfort level during intercultural contact was considered a facilitator for developing CQ. Likewise, discomfort was seen as a barrier to engaging effectively with students from different cultural backgrounds. Facial expressions, negative attitudes, and practices that do not consider cultural differences were linked to discomfort in this study. One attributing factor can be overgeneralisation, such as considering Malaysian students shy and quiet, which is similar to findings from Australia and Canada (Beagan, 2003; Davey *et al.*, 2013). This was also reported with pharmacy teachers in China when they collaborated with an American school to conduct a global classroom for pharmacy students (Pan *et al.*, 2015). American teachers thought that Chinese teachers do not communicate their opinions unless they are asked directly, which was believed to affect their communication. The views expressed in the Pan *et al.* (2015) study seem to generalise observations or experiences of cultural differences and their impact on communication.

Non-native speakers tend to describe British students as confident, intelligent, and quick at understanding and responding to questions and discussions. In all the interpretations presented, the reference point of the speaker was used to guide their interpretations. It could be said that interpretations in this way, although natural, could be biased if used to direct policies. For example, Australian academics think that Asian students are shy, indirect in their communication, and tend to have a different learning style from white students. The learning style that is associated with Asian students is memorising, whilst critical thinking is associated with western and white education systems. It has been claimed that students from other ethnicities struggle with critical thinking due to a lack of familiarity with a rigorous education system (Iskhakova, 2018). Using a reference point of unconscious comparison and generalisation of observations and experiences seems to be problematic. Generalisation appears to be the starting point of stereotyping in analysing ICC research. The depth of cultural differences and interactions should be considered as enhancing the understanding of ICC. This depth is likely to be developed by

considering what factors or mechanisms affect intercultural contact and how certain factors affect others.

The educational intervention revealed that female students seem to be more motivated toward intercultural competence than male students. Overall, students perceived the workshop positively and the assessment showed that the level of CQ improved significantly after the session. Skills that seemed to be challenging to them were showing empathy to patients from different cultural backgrounds, building rapport and trust with patients, and providing patients with information in a language that seems to be friendly and clear when there is language barrier.

One may argue that cultural training will not close the gap in health inequalities. However, the issue of health inequalities should not be presented as having a linear relationship with cultural training. Lack of cultural training is not the only reason behind health inequalities as the topic is multi-factorial and is also associated with factors such as poverty. Therefore, cultural training should focus on considering a holistic view where pharmacists consider the dynamic nature of culturally diverse situations instead of providing knowledge for certain groups of patients. The literature review in chapter 2 showed that previous studies reported improvements in intercultural competence, confidence, and comfort level in dealing with individuals from different backgrounds after cultural education. Cultural intelligence can be applied in pharmacist-patient encounters to contribute to improving the quality of care which can result in enhanced health outcomes. By considering intercultural contact to be happening in three phases, future pharmacists can be aware of cultural cues and their assumptions when interacting with patients from diverse backgrounds. Additionally, discussions about some cultural needs and how they can be approached in certain ways can build students' confidence before they practise with patients.

The theoretical framework that was partly informed by a model of critical social thinking and the CQ model considered the dynamic nature of intercultural interactions. The process of intercultural contact can help students think about culturally diverse situations when they interact with patients. Students'

reflections on the cultural training showed they valued having discussions with their peers regarding the impact of beliefs on their practices and behaviours. By taking this step, students developed their self-awareness in order to critically think about culturally diverse situations and act properly in an effective and timely manner. The educational intervention resulted in increased levels of CQ that can have a positive impact on how future pharmacists approach culturally diverse situations and analyse cultural data to interpret them and behave in a culturally effective and appropriate manner in the expected time. It is expected that students with increased CQ could be less likely to stereotype, be less ethnocentric, and have effective negotiations skills (Brislin, Worthley, & Macnab, 2006; MacNab, 2012; Triandis, 2006).

7.3 Strengths and limitations

This study is the first one that used the CQ model with pharmacy students. A review of pharmacy research in this area showed discrepancies between theories and the assessment of ICC level. The need for cultural training in pharmacy education has been mainly recognised and addressed in North America. The CQ model is based on multiple intelligence theories (Earley & Ang, 2003; Sternberg & Detterman, 1986), therefore it should provide a sound basis for pharmacy research in this area. Educational interventions related to intercultural competence in pharmacy education in the UK are scarce and the present research was aimed at providing insights into the current situation in pharmacy education in one school of pharmacy. Thus, this thesis added to the existing literature by adapting a successful model of ICC and implementing a novel educational intervention that seems promising. The proposed theoretical framework explains the mechanism of intercultural contact in pharmacy education. This mechanism had rarely been considered in detail in previous studies (Mansi, Sean, & Amit, 2004; Muzumdar *et al.*, 2010) as most contact is believed to have been in the past and familiarity is mainly considered only from the perspective of prior experience. Understanding the nature of intercultural contact can guide effective teaching that will prepare students to play a role in reducing health inequalities and improving health outcomes. This thesis sheds light on some benefits and challenges for various student groups.

I believe this thesis can encourage discussion in pharmacy education research about how to improve ICC in pharmacy students.

The results cannot be claimed to be applicable for all students in higher education. Contextual factors and my interpretation as a researcher may have affected the results. Moreover, results were drawn from just one year group in one school at the University of Nottingham. Conducting the study with undergraduate students involves some limitations due to the characteristics and experiences of those students. For example, it can be argued that undergraduate students can overestimate their cultural intelligence due to limited life experiences as most of them are in their late teens and early twenties (Ott & Michailova, 2018).

It was not possible to assess the long-term impact of cultural training for several reasons. First and foremost, the thesis is based on time-limited research and a prolonged follow-up was not feasible. Moreover, the students who participated in the research were in their final year of the MPharm programme and were intending to practise their pre-registration in different places. This limitation is common in research in educational settings when compared to research carried out in the workplace (Bezrukova *et al.*, 2012).

Only one male student participated in the educational intervention. This may reflect the findings of previous pharmacy research that female students appreciate the need for cultural training more than male students (Crawford *et al.*, 2016; Okoro, Odedina, & Smith, 2015). However, it does mean that further testing with male students is needed.

The sample size of the questionnaire study was small despite many measures taken to increase it. The selection of the sample was from one year group at one school of pharmacy, so the use of generalisation may not be possible. The use of a self-report tool is known to increase the social desirability bias as mentioned in p. 93 (Bryman, 2012). Although the CQS provides a good measure of CQ, the actual performance may look different from the data from the self-report tool. Moreover, the actual performance may differ in pharmacy practice because students will interact with a wide range of people. Motivation

and interest in the topic may affect the findings as students who completed the questionnaire may be those who understand the importance of ICC and thus could be more aware than those who did not respond to the questionnaire.

Students who participated in the interviews study may have greater awareness of cultural diversity than those who did not participate. Only the views of final year students were sought and it is possible that students in different year groups may have similar or different views or experiences. Some students were interviewed after they left university and started pre-registration which may affect their views. Data were collected through face-to-face and telephone interviews which may affect how students respond to questions based on their preferences. I noticed that students were more open to talk about their views in the telephone interviews than in face-to-face interviews. The interviews were conducted by a PhD candidate who has little experience of qualitative data collection. It might be possible that my interpretations of what students said affected the reported results as discussed in the reflexivity section in Chapter 3.

The piloting of the intervention was done with a convenience sample where most students were female and international students. It is not possible to generalise the findings of this pilot. Students who participated in the workshop may be more interested about the subject. The assessment of the intervention was done using a self-report tool which is known to increase social desirability bias (Bryman, 2012). Researchers observed the body language of participants during the workshop and the discussion at the end of the workshop aimed at obtaining students' reflections on their performance. It is not known if the observed improvement in CQ has a long-term effect, but future studies could assess that. Students in year 4 had experience of working in teams which could have influenced students. Thus, it is unclear if the intervention will have the same impact on an earlier year group. Students who participated in the workshop were not from the same cohort as the first two studies and so some of the findings from these studies may not apply to the second cohort.

7.4 Future research and implications

The area of ICC research is developing and many questions remain not fully understood. The relationship between CQ factors needs more research as findings from this study reveal inconsistency between cognitive and behavioural CQ. Internationalisation at university alone seems inadequate in promoting the growth of CQ due to lack of effective intercultural contact. Mechanisms of intercultural contact is rarely described in the literature and depth understanding of them can enhance the exploratory power of theories regarding the development of CQ. This study was limited by the small sample size, therefore, studies with large sample sizes are needed to explore and confirm factors that were found to be significantly associated with high levels of CQ, such as religion. Moreover, researchers can consider collecting qualitative data with telephone or e-mail interviews if they seek sensitive data.

Cultural training in pharmacy education needs research to validate the framework used in this research or develop a more specific framework. As this study is limited by time it did not assess the long term impact of the cultural training. Thus, future studies can consider this by following up students for long duration. This research looked at the cultural training needs from final year students' perspective and did not evaluate the MPharm programme. For curricular re-designing, curricular mapping is necessary to evaluate the cultural training content. Views of staff members can be explored to enhance the understanding of cultural training and design specific training at the UoN. The process can be best applied using review, revise, and re-deliver approach of action research which is commonly used in education and need long duration to develop the changes. Continuous assessment of students' or alumni reflections would provide a valuable resource to revise the training content. Cultural training should be impeded in the MPharm in which students receive training that is part of series along the MPharm programme.

Some issues that need improvement were reported by students. However, it was not possible to address all of them in the intervention. The role the sense of belonging in developing CQ and effective interactions can be investigated further to provide clear understanding of their role in developing CQ. This

research identified comfort level to be an essential factor that promote effective intercultural contact. This factor was addressed in the intervention through clarity of the instruction and expectations. However, if the cultural training to be provided across all years of MPharm programmes, The School has to ensure positive sense of belonging of all students, Action research could not be done on time-limited research, but further work should be directed toward continuously assess and improve the cultural training.

For future pharmacists to play a positive role in health for the diverse population, they need to be prepared at universities. For the university to be a market player in higher education, a safe and inclusive environment must be provided for all students. From the findings of the current study, it is suggested that students who have meaningful intercultural contact are more likely to be aware of cultural knowledge that directs their behaviours in intercultural situations. It is especially important to consider activities that support effective intercultural contact. These activities can be incorporated through allocated group work, international research projects, and extra-curricular activities.

The internationalisation of activities is recommended, and the school at the UoN is currently providing a range of activities that promote diversity and opportunities to develop cultural intelligence. The students can study for a year abroad in Malaysia and they have the opportunity to conduct their research project overseas. Proper planning for these activities in terms of clarifying expectations and follow-up is crucial in developing CQ.

It is important for pharmacy teachers to produce evidence to show that graduates have received appropriate training and are educationally prepared to provide interculturally competent care to a diverse patient population. It should be recognised that the quality of education materials on cultural diversity is more important than the duration of training. Teachers need to encourage students to work with unfamiliar students through structured activities to reduce the discomfort. These activities need to take place earlier than year 4. Online collaboration between campuses can be done in year 1 and 2 to increase familiarity with students.

The main findings of this research are that cultural training should be implemented in a multi-cultural university to enhance how students interact effectively with others from a variety of cultural backgrounds. Knowledge about various values, norms, practices, and beliefs remain the last factor to be developed by final year pharmacy students at the UoN. Informal intercultural contact can be improved through opportunities at the university level by encouraging students to participate in students' societies so students can have social interactions and learn from each other. Other extra-curricular activities that are particularly focused on improving informal intercultural contact for international students need to be emphasised by the university, including visiting a host family and students need to be encouraged to take part of these opportunities.

Universities should consider training their staff in ICC before addressing the topic in undergraduate curricula, as the study revealed elements of intercultural incompetence amongst pharmacy staff. The literature in pharmacy education rarely mentions the training of pharmacy teachers who train students; there is an assumption that pharmacy teachers have experience and can, and do, share that experience.

For the profession to enhance the quality of care, it is critical that every patient is treated as an individual. Recognition of cultural dilemmas can be understood best from patients' perspectives. Although generalisation in considering cultures is a natural way of thinking, pharmacists should be aware about over-generalisation and should be actively listening to patients to address any issues in a respectful manner. Personal views that contradict patients' preferences cannot be given to patients as recommendations. Pharmacists are encouraged to be aware of their unconscious biases especially when interacting with individuals from different backgrounds to themselves.

Students can use the opportunity of studying in a multi-cultural university to develop their intercultural capabilities. For students to develop their metacognitive CQ it is necessary to have cultural dialogue where they can learn new perspectives and build connections with their peers. Having conversations in a language that is not dominantly used in the university can

hinder others from inclusion. It is important that students recognise that they should use English within the classroom or when there is one person in their group who cannot understand the used language. Moving to a new environment can be challenging and measures to improve the engagement in the new culture include building connections with people and learning new perspectives.

Researchers are encouraged to conduct more research in pharmacy education to improve the cultural training of both students and staff members. Guidelines on providing cultural training should be developed on a national level and schools can use certain teaching methods or practices based on their expertise, as there is no consensus on the most effective method to develop intercultural capabilities. Conceptual clarity of ICC in pharmacy education can be enhanced by discussions and debates as presently clarity is lacking in all disciplines.

7.5 Conclusion

From the sample included in this thesis, there is room for improvement in developing pharmacy students to be culturally intelligent graduates. Intercultural contact during their time of study at the University of Nottingham provided students with several opportunities to increase their cultural awareness. Nevertheless, some challenges were identified by students which affected their intercultural interactions. A higher level of behavioural CQ was found to be associated with prior experiences, speaking more than one language, and sharing accommodation with people from different cultural backgrounds. The views of pharmacy students provided a depth of the understanding of intercultural contact in the MPharm course at the University of Nottingham. The need for diversity training was explored from the final year MPharm students' perspective. An innovative educational intervention was designed and piloted with final year MPharm students. The results of the pilot study suggest that all four factors of CQ were positively influenced by the designed intervention. In summary, this thesis looked at the challenges and benefits of cultural diversity at an individual level. This research was only

implemented with one cohort of students in the School of Pharmacy at the University of Nottingham. Research in other schools and institutions is recommended to provide a knowledge base that could direct future research and polices. Work needs to be done at the organisational level to develop policies and practicies that lead to positive outcomes in the community.

References

Abdien, M., & Jacob, M. (2018). Cross-cultural training and cultural intelligence of hospitality students: A case study in egypt and spain. *Journal of Teaching in Travel & Tourism, 19*(3), 191-215.

Abrishami, D. (2018). The need for cultural competency in health care. *Radiological Technology, 89*(5), 441-448.

Ahn, M., & Ettner, L. (2013). Cultural intelligence (cq) in mba curricula. *Multicultural Education & Technology Journal, 7*(1), 4-16.

Al-Dossary, S. (2016). Psychometric properties of the cultural intelligence scale in a saudi arabian context. *International Journal of Selection and Assessment, 24*(4), 305-311.

Allport, G., Clark, K., & Pettigrew, T. (1954). *The nature of prejudice*. Cambridge: MA Perseus Books.

Almansour, H., Chaar, B., & Saini, B. (2017). Pharmacists' perspectives about their role in care of patients with diabetes observing ramadan. *Research in Social and Administrative Pharmacy, 13*(1), 109-122.

Almutairi, A., McCarthy, A., & Gardner, G. (2015). Understanding cultural competence in a multicultural nursing workforce: Registered nurses' experience in saudi arabia. *Journal of Transcultural Nursing, 26*(1), 16-23.

Alpers, R., & Zoucha, R. (1996). Comparison of cultural competence and cultural confidence of senior nursing students in a private southern university. *Journal of Cultural Diversity, 3*(1), 9-15.

Alsharif, N. (2012). Cultural humility and interprofessional education and practice: A winning combination. *American Journal of Pharmaceutical Education, 76*(7), 120.

Alsharif, N., Khanfar, N., Brennan, L., Chahine, E., Law, M., Parekh, J., Kawaguchi-Suzuki, M., & Hogue, M. (2019). Cultural sensitivity and global pharmacy engagement in the united states. *American Journal of Pharmaceutical Education, 83*(4), 699-715.

Americano, A., & Bhugra, D. (2014). Dealing with diversity. In T. Swanwick (Ed.), *Understanding medical education: Evidence, theory and practice* (2nd ed., pp. 445-454). Chichester: Wiley-Blackwell.

Aneas, M., & Sandín, M. (2009). *Intercultural and cross-cultural communication research: Some reflections about culture and qualitative methods.* Paper presented at the Forum Qualitative Sozialforschung/Forum: Qualitative Social Research.

Ang, S., & Van Dyne, L. (2008). *Handbook of cultural intelligence: Theory, measurement, and applications.* Retrieved December 12, 2017 from https://ebookcentral.proquest.com/lib/nottingham/detail.action?docID=1968841

Ang, S., Van Dyne, L., Koh, C., Ng, K., Templer, K., Tay, C., & Chandrasekar, N. (2007). Cultural intelligence: Its measurement and

effects on cultural judgment and decision making, cultural adaptation and task performance. *Management and Organization Review, 3*(3), 335-371.

Anonymous. (2019). Plans to boost international student numbers and income. Retrieved May 27, 2021, from https://www.gov.uk/government/news/plans-to-boost-international-student-numbers-and-income

Arasaratnam, L. (2014). A discussion of multiculturalism in australia from educators' perspective. *SpringerPlus, 3*(1), 36-43.

Archer, M., Bhaskar, R., Collier, A., Lawson, T., & Norrie, A. (1998). *Critical realism: Essential readings.* Retrieved May 21, 2018 from https://ebookcentral.proquest.com/lib/nottingham/detail.action?docID=1222857

Arif, S., Cryder, B., Mazan, J., Quinones-Boex, A., & Cyganska, A. (2017). Using patient case video vignettes to improve students' understanding of cross-cultural communication. *American Journal of Pharmaceutical Education, 81*(3), 56.

Aspden, T., Butler, R., Heinrich, F., Harwood, M., & Sheridan, J. (2017). Identifying key elements of cultural competence to incorporate into a new zealand undergraduate pharmacy curriculum. *Pharmacy Education, 17*.

Assemi, M., Cullander, C., & Hudmon, K. (2004). Implementation and evaluation of cultural competency training for pharmacy students. *The Annals of Pharmacotherapy, 38*(5), 781-786.

Bain, S., & Yaklin, L. (2019). Study abroad: Striving for transformative impact. *Research in Higher Education Journal, 36*(1), 1-5.

Bandura, A. (2005). The evolution of social cognitive theory. In K. Smith & M. Hitt (Eds.), *Great minds in management* (pp. 9-35). Oxford: Oxford University Press.

Barbuto, J., Beenen, G., & Tran, H. (2015). The role of core self-evaluation, ethnocentrism, and cultural intelligence in study abroad success. *The International Journal of Management Education, 13*(3), 268-277.

Barner, J. (2000). First-year pharmacy students' perceptions of their service-learning experience. *American Journal of Pharmaceutical Education, 64*(3), 266-271.

Bazeley, P. (2009). Integrating data analyses in mixed methods research. *Journal of Mixed Methods Research, 3*(3), 203-207.

Bazeley, P. (2013). *Qualitative data analysis: Practical strategies*. London: Sage.

Beagan, B. (2003). Teaching social and cultural awareness to medical students: "It's all very nice to talk about it in theory, but ultimately it makes no difference". *Academic Medicine, 78*(6), 605-614.

Bennett, M. (2009). Defining, measuring, and facilitating intercultural learning: A conceptual introduction to the intercultural education double supplement. *Intercultural Education, 20*(sup1), S1-S13.

Bennett, M. J. (1986). A developmental approach to training for intercultural sensitivity. *International Journal of Intercultural Relations, 10*(2), 179-196.

Bezrukova, K., Jehn, K., & Spell, C. (2012). Reviewing diversity training: Where we have been and where we should go. *Academy of Management Learning & Education, 11*(2), 207-227.

Bhaskar, R. (1991). *Philosophy and the idea of freedom*. Oxford: Blackwell.

Biles, J. (2017). *Undergraduate nursing and indigenous australian cultural competence: The lived experience of students.* (PhD Thesis), Charles Sturt University, Wagga Wagga, NSW. Retrieved January 22, 2020 from https://researchoutput.csu.edu.au/ws/portalfiles/portal/88570340/Biles_Jessica_thesis.pdf

Bland, M. (2015). *An introduction to medical statistics*. Oxford: Oxford University Press.

Brancu, L., Munteanu, V., & Golet, I. (2016). Understanding cultural intelligence factors among business students in romania. *Procedia - Social and Behavioral Sciences, 221*(1), 336-341.

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77-101.

Braun, V., & Clarke, V. (2016). (mis)conceptualising themes, thematic analysis, and other problems with fugard and potts' (2015) sample-size tool for thematic analysis. *International Journal of Social Research Methodology, 19*(6), 739-743.

Braun, V., & Clarke, V. (2019). Reflecting on reflexive thematic analysis. *Qualitative Research in Sport, Exercise and Health, 11*(4), 589-597.

Braun, V., & Clarke, V. (2020). One size fits all? What counts as quality practice in (reflexive) thematic analysis? *Qualitative Research in Psychology, ahead-of-print*(ahead-of-print), 1-25.

Braun, V., Clarke, V., & Hayfield, N. (2019). 'A starting point for your journey, not a map': Nikki hayfield in conversation with virginia braun and victoria clarke about thematic analysis. *Qualitative Research in Psychology*, 1-22.

Bridges, S. (2014). *Evaluating and supporting the interculural capabilities of pharmacy undergraduates.* (PhD Thesis), University of Nottingham, Retrieved June 10, 2016 from http://eprints.nottingham.ac.uk/14095/1/Thesis_SJB_final.pdf

Brislin, R., Worthley, R., & Macnab, B. (2006). Cultural intelligence: Understanding behaviors that serve people's goals. *Group & Organization Management, 31*(1), 40-55.

Brown, B., Brehm, B., Dodge, H., Diers, T., Van Loon, R., Breen, P., Grant, V., & Wall, A. (2016). Evaluation of an interprofessional elective course for health professions students: Teaching core competencies for interprofessional collaborative practice. *Health and Interprofessional Practice, 3*(1), 4-15.

Brown, B., Heaton, P., & Wall, A. (2007). A service-learning elective to promote enhanced understanding of civic, cultural, and social issues and

health disparities in pharmacy. *American Journal of Pharmaceutical Education, 71*(1), 9-15.

Bryman, A. (1984). The debate about quantitative and qualitative research: A question of method or epistemology? *The British Journal of Sociology, 35*(1), 75-92.

Bryman, A. (2007). The research question in social research: What is its role? *International Journal of Social Research Methodology, 10*(1), 5-20.

Bryman, A. (2012). *Social research methods* (4th ed.). Oxford: Oxford University Press.

Buchanan, J., Ljungdahl, L., & Maher, D. (2015). On the borders: Adjusting to academic, social and cultural practices at an australian university. *Teacher Development, 19*(3), 294-310.

Bücker, J., Furrer, O., & Lin, Y. (2015). Measuring cultural intelligence (cq): A new test of the cq scale. *International Journal of Cross Cultural Management, 15*(3), 259–284.

Bücker, J., & Korzilius, H. (2015). Developing cultural intelligence: Assessing the effect of the ecotonos cultural simulation game for international business students. *The International Journal of Human Resource Management, 26*(15), 1995-2014.

Buckley, B., Devraj, R., Campbell, J. A., Chen, A. M. H., Haack, S. L., Petry, N., Dang, D. K., Borja-Hart, N., Armbruster, A. L., Wade, L., Santee, J., Drame, I., Planas, L. G., Edwards, A., Ma, Q., & Sadowski, C. A. (2021). Inclusion of health disparities, cultural competence, and health literacy content in us and canadian pharmacy curriculums. *American Journal of Pharmaceutical Education, 85*(1), 76-86.

Bygstad, B., & Munkvold, B. (2011). *In search of mechanisms. Conducting a critical realist data analysis*. Paper presented at the Thirty Second International Conference on Information Systems, Shanghai.

Byram, M. (1997). *Teaching and assessing intercultural communicative competence*. Clevedon: Multilingual Matters.

Byram, M. (2003). *On being 'bicultural' and 'intercultural'.* Retrieved July 28, 2017 from https://ebookcentral.proquest.com/lib/nottingham/detail.action?docID=3007708

Byram, M., Nichols, A., & Stevens, D. (2001). *Developing intercultural competence in practice [electronic resource]* Retrieved October 18, 2017 from https://ebookcentral.proquest.com/lib/nottingham/detail.action?docID=3007694

Carter, T., & Dunning, D. (2008). Faulty self-assessment: Why evaluating one's own competence is an intrinsically difficult task. *Social and Personality Psychology Compass, 2*(1), 346-360.

Chalmers, A. (Ed.) (2013). *What is this thing called science?* (4th ed.). St Lucia, Qld: UQP.

Chang, E., Simon, M., & Dong, X. (2012). Integrating cultural humility into health care professional education and training. *Advances in Health Sciences Education, 17*(2), 269-278.

Chen, A., Kiersma, M., Yehle, K., & Plake, K. (2015). Impact of an aging simulation game on pharmacy students' empathy for older adults. *American Journal of Pharmaceutical Education, 79*(5), 65-74.

Chen, A., Plake, K., Yehle, K., & Kiersma, M. (2011). Impact of the geriatric medication game on pharmacy students' attitudes toward older adults. *American Journal of Pharmaceutical Education, 75*(8), 158-164.

Chen, G. (2014). Intercultural communication competence: Summary of 30-year research and directions for future study. In X. Dai, G.-M. Chen, & ebrary (Eds.), *Intercultural communication competence: Conceptualization and its development in cultural contexts and interactions* (pp. 14-40). Newcastle upon Tyne: Cambridge Scholars Publishing.

Chen, J., LaLopa, J., & Dang, D. (2008). Impact of patient empathy modeling on pharmacy students caring for the underserved. *American Journal of Pharmaceutical Education, 72*(2), 40-51.

Chisholm, M. (2004). Diversity: A missing link to professionalism. *American Journal of Pharmaceutical Education, 68*(5), 120.

Cisneros, R., Jawaid, S., Kendall, D., McPherson, C., Mu, K., Weston, G., & Roberts, K. (2013). International practice experiences in pharmacy education. *American Journal of Pharmaceutical Education, 77*(9), 188-193.

CNN. (2019). Duke professor warned chinese students to speak english. Retrieved November 29, 2019, from https://edition.cnn.com/2019/01/28/health/duke-professor-warns-chinese-students-speak-english-trnd/index.html

Cochran, S., Drescher, J., Kismödi, E., Giami, A., García-Moreno, C., Atalla, E., Marais, A., Vieira, E., & Reed, G. (2014). Proposed declassification of disease categories related to sexual orientation in the international statistical classification of diseases and related health problems (icd-11). *Bulletin of the World Health Organization, 92*(9), 672-679.

Cooper, L., Vellurattil, R., & Quiñones-Boex, A. (2014). Pharmacy students' perceptions of cultural competence encounters during practice experiences. *American Journal of Pharmaceutical Education, 78*(2), 31-37.

Crandall, S., Davis, S., Broeseker, A., & Hildebrandt, C. (2008). A longitudinal comparison of pharmacy and medical students' attitudes toward the medically underserved. *American Journal of Pharmaceutical Education, 72*(6), 148-155.

Crawford, S., Awe, C., Tawk, R., & Pickard, A. (2016). A cross sectional and longitudinal study of pharmacy student perceptions of readiness to serve diverse populations. *American Journal of Pharmaceutical Education, 80*(4), 62-72.

Creswell, J. (2007). *Designing and conducting mixed methods research*. London: Sage.

Creswell, J. (2018). *Research design : Qualitative, quantitative, and mixed methods approaches* (5th ed.). London: Sage.

Creswell, J., & Miller, D. (2000). Determining validity in qualitative inquiry. *Theory into Practice, 39*(3), 124-130.

Crowne, K. (2008). What leads to cultural intelligence? *Business Horizons, 51*(5), 391-399.

Dalib, S., Harun, M., & Yusof, N. (2016). Student intercultural competence in a malaysian campus: A phenomenological approach. *Journal of Multicultural Discourses, 12*(1), 42-62.

Dang, Y., Truong, H., & Wade, L. (2019). Assessment of first-year student pharmacist's intercultural competency skills using a validated scale and international scenarios. *American Journal of Pharmaceutical Education, 83*(5), 6970.

Davey, A., Grant, G., & Anoopkumar-Dukie, S. (2013). Academic performance and personal experience of local, international, and collaborative exchange students enrolled in an australian pharmacy program. *American Journal of Pharmaceutical Education, 77*(7), 148.

Deardorff, D. (2006). Identification and assessment of intercultural competence as a student outcome of internationalization. *Journal of Studies in International Education, 10*(3), 241-266.

Deardorff, D. (2009). *The sage handbook of intercultural competence*. California: Sage.

Deardorff, D. (2011). Assessing intercultural competence. *New Directions for Institutional Research*(149), 65-79.

Dein, S. (2006). Race, culture and ethnicity in minority research: A critical discussion. *Journal of Cultural Diversity, 13*(2), 68-75.

Diaz-Cruz, E. (2019). If cultural sensitivity is not enough to reduce health disparities, what will pharmacy education do next? *Currents in Pharmacy Teaching and Learning, 11*(5), 538-540.

Dierckx de Casterlé, B., Gastmans, C., Bryon, E., & Denier, Y. (2012). Quagol: A guide for qualitative data analysis. *International Journal of Nursing Studies, 49*(3), 360-371.

Dogra, N. (2003). Cultural competence or cultural sensibility? A comparison of two ideal type models to teach cultural diversity to medical students. *International Journal of Medicine, 5*(4), 223-231.

Dogra, N., & Karnik, N. (2003). First-year medical students' attitudes toward diversity and its teaching: An investigation at one u.S. Medical school. *Academic Medicine, 78*(11), 1191-1200.

Dogra, N., & Wass, V. (2006). Can we assess students' awareness of cultural diversity? A qualitative study of stakeholders' views. *Medical Education, 40*(7), 682-690.

Dolnicar, S., & Gruen, B. (2007). Cross-cultural differences in survey response patterns. *International Marketing Review, 24*(2), 127-143.

Duckett, K. (2013). Cross-cultural communication and co-ethnic social networks: Perspectives and practices of independent community pharmacists in urban britain. *Medical Anthropology, 32*(2), 145-159.

Durand, C., Abel, C., Silva, M., & Desilets, A. (2012). An elective course in cultural competence. *Currents in Pharmacy Teaching and Learning, 4*(2), 102-108.

Earley, P., & Ang, S. (2003). *Cultural intelligence: Individual interactions across cultures*. Stanford: Stanford University Press.

Echeverri, M., Brookover, C., & Kennedy, K. (2013). Assessing pharmacy students' self-perception of cultural competence. *Journal of Health Care for the Poor Underserved, 24*(1 Suppl), 64-92.

Edmonds, M. (2012). An integrative literature review of study abroad programs for nursing students. *Nursing Education Perspectives, 33*(1), 30-34.

Eisenberg, J., Lee, H., Brück, F., Brenner, B., Claes, M., Mironski, J., & Bell, R. (2013). Can business schools make students culturally competent? Effects of cross-cultural management courses on cultural intelligence. *Academy of Management Learning & Education, 12*(4), 603.

Ellaway, R. H., Kehoe, A., & Illing, J. (2020). Critical realism and realist inquiry in medical education. *Academic Medicine, 95*(7), 984-988.

Equality and Human Rights Commission. (2019). *Tackling racial harassment: Universities challenged*.Retrieved October 17, 2019 from https://www.equalityhumanrights.com/sites/default/files/tackling-racial-harassment-universities-challenged.pdf

Evans, E. (2006). An elective course in cultural competence for healthcare professionals. *American Journal of Pharmaceutical Education, 70*(3), 55.

Evans, S., Lombardo, M., Belgeri, M., & Fontane, P. (2005). The geriatric medication game in pharmacy education. *American Journal of Pharmaceutical Education, 69*(3), 46.

Falter, R., Pignotti-Dumas, K., Popish, S., Petrelli, H., Best, M., & Wilkinson, J. (2011). A service learning program in providing nutrition education to children. *American Journal of Pharmaceutical Education, 75*(5), 85.

Fantini, A. (1995). Introduction-language, culture and world view: Exploring the nexus. *International Journal of Intercultural Relations, 19*(2), 143-153.

Fejzic, J., & Barker, M. (2015). Implementing simulated learning modules to improve students' pharmacy practice skills and professionalism. *Pharmacy Practice, 13*(3), 583.

Fejzic, J., Barker, M., Hills, R., & Priddle, A. (2016). Communication capacity building through pharmacy practice simulation. *American Journal of Pharmaceutical Education, 80*(2), 28.

Fetters, M., Curry, L., & Creswell, J. (2013). Achieving integration in mixed methods designs-principles and practices. *Health Services Research, 48*(6pt2), 2134-2156.

Fischer, R. (2011). Cross-cultural training effects on cultural essentialism beliefs and cultural intelligence. *International Journal of Intercultural Relations, 35*(6), 767-775.

Fletcher, A. (2017). Applying critical realism in qualitative research: Methodology meets method. *International Journal of Social Research Methodology, 20*(2), 181-194.

Forsetlund, L., Eike, M., & Vist, G. (2010). Effect of interventions to improve health care services for ethnic minority populations. *Norsk Epidemiologi, 20*(1), 41-52.

Gallagher, R., & Polanin, J. (2015). A meta-analysis of educational interventions designed to enhance cultural competence in professional nurses and nursing students. *Nurse Education Today, 35*(2), 333-340.

General Pharmaceutical Council. (2019). Equality impact assessment. Retrieved February 28, 2021, from https://www.pharmacyregulation.org/sites/default/files/document/ietp-post-consultation-equality-impact-assessment-september-2019.pdf

General Pharmaceutical Council. (2021). Standards for the initial education and training of pharmacists. Retrieved May 23, 2021, from https://www.pharmacyregulation.org/sites/default/files/document/standards-for-the-initial-education-and-training-of-pharmacists-january-2021.pdf

George, R., Thornicrof, G., & Dogra, N. (2015). Exploration of cultural competency training in uk healthcare settings: A critical interpretive review of the literature. *Diversity and Equality in Health and Care, 12*(3), 104-115.

Glaser, B., & Strauss, A. (1968). *The discovery of grounded theory : Strategies for qualitative research*. London: Weidenfeld and Nicolson.

God, Y., & Zhang, H. (2019). Intercultural challenges, intracultural practices: How chinese and australian students understand and experience intercultural communication at an australian university. *Higher Education, 78*(2), 305-322.

Goicolea, I., Wulff, M., Sebastian, M., & Ohman, A. (2010). Adolescent pregnancies and girls' sexual and reproductive rights in the amazon basin of ecuador: An analysis of providers' and policy makers' discourses. *BMC International Health and Human Rights, 10*(1), 12.

Göl, İ., & Erkin, Ö. (2019). Association between cultural intelligence and cultural sensitivity in nursing students: A cross-sectional descriptive study. *Collegian, 26*(4), 485-491.

Goleman, D. (1997). *Emotional intelligence*. New York: Bantam Books.

Govere, L., & Govere, E. (2016). How effective is cultural competence training of healthcare providers on improving patient satisfaction of minority groups? A systematic review of literature. *Worldviews on Evidence-Based Nursing, 13*(6), 402.

Greatrex-White, S. (2008). Uncovering study abroad: Foreignness and its relevance to nurse education and cultural competence. *Nurse Education Today, 28*(5), 530.

Greene, J., Caracelli, V., & Graham, W. (1989). Toward a conceptual framework for mixed-method evaluation designs. *Educational Evaluation and Policy Analysis, 11*(3), 255-274.

Greenhalgh, T., Thorne, S., & Malterud, K. (2018). Time to challenge the spurious hierarchy of systematic over narrative reviews? *European Journal of Clinical Investigation, 48*(6), e12931.

Greenwald, A., Poehlman, T., Uhlmann, E., & Banaji, M. (2009). Understanding and using the implicit association test: Iii. Meta-analysis of predictive validity. *Journal of Personality and Social Psychology, 97*(1), 17-41.

Griffith, R., & Converse, P. (2011). *The rules of evidence and the prevalence of applicant faking*. New York: Oxford University Press.

Griffith, R., Wolfeld, L., Armon, B., Rios, J., & Liu, O. (2016). *Assessing intercultural competence in higher education: Existing research and future directions* (Educational Testing Services (ETS) Research Report No. RR-16-25).Retrieved November 20, 2018 from http://onlinelibrary.wiley.com/store/10.1002/ets2.12112/asset/ets212112.pdf?v=1&t=iysz88vm&s=77c26f7a94129d2fa06e03cde7bb00b0f0bc5591

Grossman, R., Thayer, A., Shuffler, M., Burke, C., & Salas, E. (2015). Critical social thinking: A conceptual model and insights for training. *Organizational Psychology Review, 5*(2), 99-125.

Guðmundsdóttir, S. (2015). Nordic expatriates in the us: The relationship between cultural intelligence and adjustment. *International Journal of Intercultural Relations, 47*, 175-186.

Guetterman, T., Fetters, M., & Creswell, J. (2015). Integrating quantitative and qualitative results in health science mixed methods research through joint displays. *Annals of Family Medicine, 13*(6), 554-561.

Gullahorn, J., & Gullahorn, J. (1963). An extension of the u-curve hypothesis 1. *Journal of Social Issues, 19*(3), 33-47.

Guo, S. (2007). Nurturing cultural diversity in higher education: A critical review of selected models. *Canadian Journal of Higher Education, 37*, 27-49.

Gustomo, A., Putranto, N., Ghazali, A., & Nuraeni, S. (2018). Designing effective field trip activities to develop students' cultural intelligence. *International Journal of Business & Society, 19*(1), 195-208.

Haack, S. (2008). Engaging pharmacy students with diverse patient populations to improve cultural competence. *American Journal of Pharmaceutical Education, 72*(5), 124.

Haack, S., & Phillips, C. (2012). Teaching cultural competency through a pharmacy skills and applications course series. *American Journal of Pharmaceutical Education, 76*(2), 27.

Hadi, M., Alldred, D., Closs, S. J., & Briggs, M. (2014). Mixed-methods research in pharmacy practice: Recommendations for quality reporting (part 2). *International Journal of Pharmacy Practice, 22*(1), 96-100.

Hadi, M., & Closs, S. (2016). Applications of mixed-methods methodology in clinical pharmacy research. *International Journal of Clinical Pharmacy and Pharmaceutical Care, 38*(3), 635-640.

Halabi, J., & de Beer, J. (2018). Exploring the cultural competence of undergraduate nursing students in saudi arabia. *Nurse Education Today, 62*, 9-15.

Halbur, K. (2008). *Essentials of cultural competence in pharmacy practice*. Washington, D.C.: American Pharmacists Association.

Hammer, M., Wiseman, R., Rasmussen, J., & Bruschke, J. (1998). A test of anxiety/uncertainty management theory: The intercultural adaptation context. *Communication Quarterly, 46*(3), 309-326.

Harkess, L., & Kaddoura, M. (2016). Culture and cultural competence in nursing education and practice: The state of the art. *Nursing forum, 51*(3), 211-222.

Harrison, N. (2012). Investigating the impact of personality and early life experiences on intercultural interaction in internationalised universities. *International Journal of Intercultural Relations, 36*(2), 224-237.

Hassani, F. (2015). Effect of cultural intelligence on self-directed learning of nursing students. *Education Strategies in Medical Sciences, 8*(2), 115-122.

He, J., & Van de Vijver, F. (2012). Bias and equivalence in cross-cultural research. *Online Readings in Psychology and Culture, 2*(2), 8.

Higher Education Statistics Agency. (2020). Who's studing in he? Retrieved August 20, 2020, from https://www.hesa.ac.uk/data-and-analysis/students/whos-in-he#provider

Hofstede, G., & Hofstede, G. (2005). *Cultures and organizations: Software of the mind* (2nd ed.). London: McGraw-Hill.

Holmwood, J. (2009). The challenge of global social inquiry. *Sociological Research Online, 14*(4), 100-104.

Howard-Hamilton, M., Richardson, B., & Shuford, B. (1998). Promoting multicultural education: A holistic approach. *College Student Affairs Journal, 18*(1), 5.

Hunter, B., White, G., & Godbey, G. (2006). What does it mean to be globally competent? *Journal of Studies in International Education, 10*(3), 267-285.

Hussain, B., Sheikh, A., Timmons, S., Stickley, T., & Repper, J. (2020). Workforce diversity, diversity training and ethnic minorities: The case of the uk national health service. *International Journal of Cross Cultural Management, 20*(2), 201-221.

Hussin, V. (2013). Student and teacher reflections on indirectness as a pragmatic feature of pharmacist–patient simulations. *English for Specific Purposes, 32*(2), 110-121.

IELTS. (2019). Ielts: How we developed the test. Retrieved August 20, 2019, from https://www.ielts.org/about-the-test/how-we-develop-the-test

Ihsan, S. (2009). *Cultural competency in pharmaceutical care delivery for minority ethnic communities.* (PhD Thesis), University of Derby, Retrieved October 11, 2018 from https://ethos.bl.uk/OrderDetails.do?did=1&uin=uk.bl.ethos.732602

Iskhakova, M. (2018). Does cross-cultural competence matter when going global: Cultural intelligence and its impact on performance of international students in australia. *Journal of Intercultural Communication Research, 47*(2), 121-140.

Jarvis, C., James, V., Giles, J., & Turner, C. (2004). Nutrition and nurturing: A service-learning nutrition pharmacy course. *American Journal of Pharmaceutical Education, 68*(2), 43.

Johnson, R., Grove, A., & Clarke, A. (2019). Pillar integration process: A joint display technique to integrate data in mixed methods research. *Journal of Mixed Methods Research, 13*(3), 301-320.

Jones, S., & Pinto-Zipp, G. (2017). Assessing health professional students' cultural competence using a global perspective. *Journal of Allied Health, 46*(2), 88-93.

Kallio, H., Pietilä, A.-M., Johnson, M., & Kangasniemi, M. (2016). Systematic methodological review: Developing a framework for a qualitative semi-structured interview guide. *Journal of Advanced Nursing, 72*(12), 2954-2965.

Kim, Y. (1988). *Communication and cross-cultural adaptation: An integrative theory*. Clevedon: Multilingual Matters.

Kim, Y. (2015). Achieving synchrony: A foundational dimension of intercultural communication competence. *International Journal of Intercultural Relations, 48*, 27-37.

Kimmel, K., & Volet, S. (2012). Understanding motivation, engagement and experiences of intercultural interactions at university: A person-in-multiple contexts perspective. *European journal of psychology of education, 27*(2), 227-245.

Kitson, A., Marshall, A., Bassett, K., & Zeitz, K. (2013). What are the core elements of patient-centred care? A narrative review and synthesis of the literature from health policy, medicine and nursing. *Journal of Advanced Nursing, 69*(1), 4-15.

Ko, B., Boswell, B., & Yoon, S. (2015). Developing intercultural competence through global link experiences in physical education. *Physical Education and Sport Pedagogy, 20*(4), 366-380.

Koç, K., & Turan, M. (2018). The impact of cultural intelligence on social skills among university students. *Journal of Education and Learning, 7*(6), 241-249.

Koernig, S. (2007). Planning, organizing, and conducting a 2-week study abroad trip for undergraduate students: Guidelines for first-time faculty. *Journal of Marketing Education, 29*(3), 210-217.

Kolb, D. (1984). *Experiential learning : Experience as the source of learning and development*. Englewood Cliffs, N.J.: Prentice-Hall.

Kruse, S., Rakha, S., & Calderone, S. (2018). Developing cultural competency in higher education: An agenda for practice. *Teaching in Higher Education, 23*(6), 733-750.

Kuhn, T. (1996). *The structure of scientific revolutions* (3rd ed.). Chicago: University of Chicago Press.

Kumas-Tan, Z., Beagan, B., Loppie, C., MacLeod, A., & Frank, B. (2007). Measures of cultural competence: Examining hidden assumptions. *Academic Medicine, 82*(6), 548-557.

Kurtz, D., Janke, R., Vinek, J., Wells, T., Hutchinson, P., & Froste, A. (2018). Health sciences cultural safety education in australia, canada, new zealand, and the united states: A literature review. *International Journal of Medical Education, 9*, 271-285.

Kwon, S., Hernandez, X., & Moga, J. (2019). Racial segregation and the limits of international undergraduate student diversity. *Race Ethnicity and Education, 22*(1), 59-72.

La Roche, M., Koinis-Mitchell, D., & Gualdron, L. (2006). A culturally competent asthma management intervention: A randomized controlled pilot study. *Annals of Allergy, Asthma, & Immunology, 96*(1), 80-85.

Leung, K., Ang, S., & Tan, M. (2014). Intercultural competence. *Annual Review of Organaizational Psychology and Organization Behavior, 1*(1), 489-519.

Liekens, S., Smits, T., Laekeman, G., & Foulon, V. (2012). Pharmaceutical care for people with depression: Belgian pharmacists' attitudes and perceived barriers. *International Journal of Clinical Pharmacy, 34*(3), 452-459.

Lin, X., & Shen, G. (2019). How formal and informal intercultural contacts in universities influence students' cultural intelligence? *Asia Pacific Education Review, 21*(2), 245-259.

Lipson, J., & Desantis, L. (2007). Current approaches to integrating elements of cultural competence in nursing education. *Journal of Transcultural Nursing, 18*(1_suppl), 10S-20S.

Liu, M., Poirier, T., Butler, L., Comrie, R., & Pailden, J. (2015). Design and evaluation of interprofessional cross-cultural communication sessions. *Journal of Interprofessional Care, 29*(6), 622-627.

Long, T. (2012). Overview of teaching strategies for cultural competence in nursing students. *Journal of Cultural Diversity, 19*(3), 102-108.

MacNab, B. (2012). An experiential approach to cultural intelligence education. *Journal of Management Education, 36*(1), 66-94.

Mansi, B., Sean, K., & Amit, S. (2004). Intercultural disposition and communication competence of future pharmacists. *American Journal of Pharmaceutical Education, 68*(5), 111.

Manzano, A. (2016). The craft of interviewing in realist evaluation. *Evaluation, 22*(3), 342-360.

Marmot, M. (2020). Health equity in england: The marmot review 10 years on. *BMJ (Clinical research ed.), 368*, 1.

Marmot, M., & Bell, R. (2012). Fair society, healthy lives. *Public Health, 126*, S4-S10.

McKinley, J., Dunworth, K., Grimshaw, T., & Iwaniec, J. (2019). Developing intercultural competence in a 'comfortable' third space: Postgraduate studies in the uk. *Language and Intercultural Communication, 19*(1), 9-22.

Mead, N., & Bower, P. (2002). Patient-centred consultations and outcomes in primary care: A review of the literature. *Patient Education and Counseling, 48*(1), 51-61.

Mezirow, J. (1991). *Transformative dimensions of adult learning*. San Francisco, C.A.: Jossey-Bass.

Muurlink, O., & Matas, C. (2011). From romance to rocket science: Speed dating in higher education. *Higher Education Research & Development, 30*(6), 751-764.

Muzumdar, J., Holiday-Goodman, M., Black, C., & Powers, M. (2010). Cultural competence knowledge and confidence after classroom activities. *American Journal of Pharmaceutical Education, 74*(8), 150.

Nairn, S. (2012). A critical realist approach to knowledge: Implications for evidence-based practice in and beyond nursing. *Nursing Inquiry, 19*(1), 6-17.

Naylor, I., Lucas, B., & Isreb, M. (2015). *'Academic speed dating': A class activity promoting patient-centred practice*. Paper presented at the Manchester Pharmacy Education Conference, UK.

Ng, K.-Y., Tan, M., & Ang, S. (2011). Culture capital and cosmopolitan human capital: The impact of global mindset and organizational routines on developing cultural intelligence and international experiences in organizations. In A. Burton & J.-C. Spender (Eds.), *The oxford handbook of human capital* (pp. 96-119). Oxford: Oxford University Press.

Nguyen, A.-M., Jefferies, J., & Rojas, B. (2018). Short term, big impact? Changes in self-efficacy and cultural intelligence, and the adjustment of multicultural and monocultural students abroad. *International Journal of Intercultural Relations, 66*(1), 119-129.

O'Connell, M., Korner, E., Rickles, N., & Sias, J. (2007). Cultural competence in health care and its implications for pharmacy. Part 1. Overview of key concepts in multicultural health care. *Pharmacotherapy, 27*(7), 1062-1079.

O'Connell, M., Rodriguez de Bittner, M., Poirier, T., Karaoui, L., Echeverri, M., Chen, A., Lee, S., Vyas, D., O'Neil, C., & Jackson, A. (2013). Cultural competency in health care and its implications for pharmacy part 3a: Emphasis on pharmacy education, curriculums, and future directions. *Pharmacotherapy, 33*(12), e347-367.

O'Cathain, A., Murphy, E., & Nicholl, J. (2010). Three techniques for integrating data in mixed methods studies. *British Medical Journal, 341*, c4587.

Odağ, Ö., Wallin, H., & Kedzior, K. (2015). Definition of intercultural competence according to undergraduate students at an international university in germany. *Journal of Studies in International Education, 20*(2), 118-139.

Office for National Statistics. (2011). Ethnicity and national identity in england and wales 2011. Retrieved October 2, 2017, from http://webarchive.nationalarchives.gov.uk/20160105160709/http://www.ons.gov.uk/ons/dcp171776_290558.pdf

Office for National Statistics. (2020). Estimates of the population for the uk, england and wales, scotland and northern ireland. Retrieved February 27, 2021, from https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/datasets/populationestimatesforukenglandandwalesscotlandandnorthernireland

Okoro, O., Odedina, F., Reams, R., & Smith, W. (2012). Clinical cultural competency and knowledge of health disparities among pharmacy students. *American Journal of Pharmaceutical Education, 76*(3), 40.

Okoro, O., Odedina, F., & Smith, W. (2015). Determining the sufficiency of cultural competence instruction in pharmacy school curriculum. *American Journal of Pharmaceutical Education, 79*(4), 50.

Oliver, C., Hurd, P., Beavers, M., Gibbs, E., Goeckner, B., & Miller, K. (1995). Experiential learning about the elderly: The geriatric medication game. *American Journal of Pharmaceutical Education, 59*(2), 155-157.

Onyoni, E., & Ives, T. (2007). Assessing implementation of cultural competency content in the curricula of colleges of pharmacy in the united states and canada. *American Journal of Pharmaceutical Education, 71*(2), 24.

Östlund, U., Kidd, L., Wengström, Y., & Rowa-Dewar, N. (2011). Combining qualitative and quantitative research within mixed method research designs: A methodological review. *International Journal of Nursing Studies, 48*(3), 369-383.

Ott, D., & Michailova, S. (2018). Cultural intelligence: A review and new research avenues. *International Journal of Management Reviews, 20*(1), 99-119.

Otten, M. (2003). Intercultural learning and diversity in higher education. *Journal of Studies in International Education, 7*(1), 12-26.

Pan, A., Ryan, M., & Cain, J. (2015). A student's perspective of learning in a global classroom course. *Currents in Pharmacy Teaching and Learning, 7*(4), 551-555.

Paternotte, E., van Dulmen, S., Bank, L., Seeleman, C., Scherpbier, A., & Scheele, F. (2017). Intercultural communication through the eyes of patients: Experiences and preferences. *International Journal of Medical Education, 8*(1), 170-175.

Paulhus, D. (1984). Two-component models of socially desirable responding. *Journal of Personality and Social Psychology, 46*(3), 598-609.

Pawson, R., & Tilley, N. (1997). *Realistic evaluation*: sage.

Pedersen, P. (2010). Assessing intercultural effectiveness outcomes in a year-long study abroad program. *International Journal of Intercultural Relations, 34*(1), 70-80.

Pinto, S. (2018). Intercultural competence in higher education: Academics' perspectives. *On the Horizon, 26*(2), 137-147.

Plano Clark, V., Garrett, A., & Leslie-Pelecky, D. (2010). Applying three strategies for integrating quantitative and qualitative databases in a mixed methods study of a nontraditional graduate education program. *Field Methods, 22*(2), 154-174.

Poirier, T., Butler, L., Devraj, R., Gupchup, G., Santanello, C., & Lynch, J. (2009). A cultural competency course for pharmacy students. *American Journal of Pharmaceutical Education, 73*(5), 81.

Porter, S., Whitcomb, M., & Weitzer, W. (2004). Multiple surveys of students and survey fatigue. *New Directions for Institutional Research, 2004*(121), 63-73.

Rahmawati, Y., & Taylor, P. (2018). "The fish becomes aware of the water in which it swims": Revealing the power of culture in shaping teaching identity. *Cultural Studies of Science Education, 13*(2), 525-537.

Richey Smith, C., Ryder, P., Bilodeau, A., & Schultz, M. (2016). Use of an online game to evaluate health professions students' attitudes toward people in poverty. *American Journal of Pharmaceutical Education, 80*(8), 139.

Robledo-Ardila, C., Aguilar-Barrientos, S., & Román-Calderón, J. (2016). Education-related factors in cultural intelligence development: A colombian study. *Journal of Teaching in International Business, 27*(1), 41-58.

Rockich-Winston, N., & Wyatt, T. (2019). The case for culturally responsive teaching in pharmacy curricula. *American Journal of Pharmaceutical Education, 83*(8), 1653-1659.

Rose-Redwood, C., & Rose-Redwood, R. (2013). Self-segregation or global mixing?: Social interactions and the international student experience. *Journal of College Student Development, 54*(4), 413-429.

Rosemin, K., Augusto, E., Yvonne, H., Birpaul, B., & John, B. (2013). Addressing cultural competency in pharmacy education through

international service learning and community engagement. *Pharmacy, 1*(1), 16-33.

Sagar, P. (2014). *Transcultural nursing education strategies*. New York: Springer Publishing.

Saha, S., Beach, M., & Cooper, L. (2008). Patient centeredness, cultural competence and healthcare quality. *Journal of the National Medical Association, 100*(11), 1275-1285.

Sales, I., Jonkman, L., Connor, S., & Hall, D. (2013). A comparison of educational interventions to enhance cultural competency in pharmacy students. *American Journal of Pharmaceutical Education, 77*(4), 76.

Santana, M.-J., Ahmed, S., Lorenzetti, D., Jolley, R., Manalili, K., Zelinsky, S., Quan, H., & Lu, M. (2019). Measuring patient-centred system performance: A scoping review of patient-centred care quality indicators. *British Medical Journal open, 9*(1), e023596.

Schaafsma, E., Raynor, T., & Van den Berg, L. (2003). Accessing medication information by ethnic minorities: Barriers and possible solutions. *Pharmacy World and Science, 25*(5), 185-190.

Schiller, C. (2016). Critical realism in nursing: An emerging approach. *Nursing Philosophy, 17*(2), 88-102.

Schnabel, D., Kelava, A., Van de Vijver, F., & Seifert, L. (2015). Examining psychometric properties, measurement invariance, and construct validity of a short version of the test to measure intercultural competence (tmic-s) in germany and brazil. *International Journal of Intercultural Relations, 49*(1), 137-155.

Sealey, L., Burnett, M., & Johnson, G. (2006). Cultural competence of baccalaureate nursing faculty: Are we up to the task? *Journal of Cultural Diversity, 13*(3), 131-140.

Shaya, F., & Gbarayor, C. (2006). The case for cultural competence in health professions education. *American Journal of Pharmaceutical Education, 70*(6), 124.

Shearer, R., & Davidhizar, R. (2003). Using role play to develop cultural competence. *Journal of Nursing Education, 42*(6), 273.

Shrader, S., Dunn, B., Blake, E., & Phillips, C. (2015). Incorporating standardized colleague simulations in a clinical assessment course and evaluating the impact on interprofessional communication. *American Journal of Pharmaceutical Education, 79*(4), 57.

Silverman, D. (2013). *Doing qualitative research* (4th ed.). London: SAGE.

Silverman, D. (2014). *Interpreting qualitative data* (5th ed.). London: SAGE.

Smit, R. (2012). Towards a clearer understanding of student disadvantage in higher education: Problematising deficit thinking. *Higher Education Research & Development, 31*(3), 369-380.

Smith, J., & Firth, J. (2011). Qualitative data analysis: The framework approach. *Nurse researcher, 18*(2), 52-62.

Solomon, A., & Steyn, R. (2017). Exploring cultural intelligence truths: A systematic review. *SA Journal of Human Resource Management, 15*.

Sorrells, K. (2014). Intercultural praxis: Transforming intercultural competence for the 21st century. In X. Dai & G.-M. Chen (Eds.), *Intercultural communication competence: Conceptualization and its development in cultural contexts and interactions* (pp. 144-168). Newcastle upon Tyne: Cambridge Scholars Publishing.

Sousa, C., Gonçalves, G., & Santos, J. (2019). Intercultural contact as a predictor of cultural intelligence. *Universitas Psychologica, 18*(2), 1-12.

Spiteri, D. (2017). *Multiculturalism, higher education and intercultural communication*. London: Palgrave Macmillan.

Spitzberg, B., & Changnon, G. (2009). Conceptualizing intercultural competence. In D. K. Deardorff (Ed.), *The sage handbook of intercultural competence* (pp. 2 - 52). Thousand Oaks, Calif.: Sage Publications.

St Clair, A., & McKenry, L. (1999). Preparing culturally competent practitioners. *Journal of Nursing Education, 38*(5), 228-234.

Sternberg, R., & Detterman, D. (1986). *What is intelligence? Contemporary viewpoints on its nature and definition*. Norwood, N.J.: Ablex.

Stewart, M. (2001). Towards a global definition of patient centred care: The patient should be the judge of patient centred care. In (Vol. 322): British Medical Journal Publishing Group.

Tashakkori, A., & Teddlie, C. (2010). *Sage handbook of mixed methods in social & behavioral research*. London: Sage.

Thompson, V., & Alexander, H. (2006). Therapists' race and african american clients' reactions to therapy. *Psychotherapy, 43*(1), 99-110.

Ting-Toomey, S., & Kurogi, A. (1998). Facework competence in intercultural conflict: An updated face-negotiation theory. *International Journal of Intercultural Relations, 22*(2), 187-225.

Tong, A., Sainsbury, P., & Craig, J. (2007). Consolidated criteria for reporting qualitative research (coreq): A 32-item checklist for interviews and focus groups. *International Journal for Quality in Health Care, 19*(6), 349-357.

Triandis, H. (2006). Cultural intelligence in organizations. *Group & Organization Management, 31*(1), 20-26.

Trujillo, J., & Hardy, Y. (2009). A nutrition journal and diabetes shopping experience to improve pharmacy students' empathy and cultural competence. *American Journal of Pharmaceutical Education, 73*(2), 37.

UK Government. (2010). Equality act 2010. Retrieved January 20, 2017, from http://www.legislation.gov.uk/ukpga/2010/15/pdfs/ukpga_20100015_en.pdf

University of Nottingham. (2019). Student statistics 2018-19. Retrieved August 25, 2019, from https://www.nottingham.ac.uk/ppsc/spp/student-statistics/detailed-statistics-and-analyses-2018-19-pdf.aspx

Urnaut, A. (2014). Education for successful intercultural communication and cultural intelligence. *Journal of Economic and Social Developmen, 1*(1), 63-73.

Valencia, R. (2012). *The evolution of deficit thinking: Educational thought and practice*. London: The Falmer Press.

Van de Vijver, F. (2017). [Distinction between terms via personal communication].

Van de Vijver, F., & Leung, G. (2009). Methodological issues in researching intercultural competence. In D. K. Deardorff (Ed.), *The sage handbook of intercultural competence* (pp. 404-417). California: Sage Publications.

Van de Vijver, F., & Leung, K. (1997). *Methods and data analysis for cross-cultural research*. London: Sage.

Vandenberg, H. (2010). Culture theorizing past and present: Trends and challenges. *Nursing Philosophy, 11*(4), 238-249.

VanTyle, W., Kennedy, G., Vance, M., & Hancock, B. (2011). A spanish language and culture initiative for a doctor of pharmacy curriculum. *American Journal of Pharmaceutical Education, 75*(1), 4.

Venkatesh, V., Brown, S., & Bala, H. (2013). Bridging the qualitative-quantitative divide: Guidelines for conducting mixed methods research in information systems. *Management of Information Systems, 37*(1), 21-54.

Vyas, D., & Caligiuri, F. (2010). Reinforcing cultural competency concepts during introductory pharmacy practice experiences. *American Journal of Pharmaceutical Education, 74*(7), 129.

Walker, R. (2009). Mixed methods research: Quantity plus quality. In J. Neale (Ed.), *Research methods for health and social care* (pp. 267-282). Basingstoke: Palgrave Macmillan.

Wang, Y., Davidson, M., Yakushko, O., Savoy, H., Tan, J., & Bleier, J. (2003). The scale of ethnocultural empathy: Development, validation, and reliability. *Journal of Counseling Psychology, 50*(2), 221.

Wenger, L., Rosenthal, M., Sharpe, J., & Waite, N. (2016). Confronting inequities: A scoping review of the literature on pharmacist practice and health-related disparities. *Research in Social and Administrative Pharmacy, 12*(2), 175-217.

Westberg, S., Bumgradner, M., & Lind, P. (2005). Enhancing cultural competency in college of pharmacy curriculum. *American Journal of Pharmaceutical Education, 69*(5), 1-9.

White-Means, S., Zhiyong, D., Hufstader, M., & Brown, L. (2009). Cultural competency, race, and skin tone bias among pharmacy, nursing, and medical students: Implications for addressing health disparities. *Medical Care Research and Review, 66*(4), 436-455.

Wilby, K., Taylor, J., Khalifa, S., & Jorgenson, D. (2015). A course-based cross-cultural interaction among pharmacy students in qatar and canada. *American Journal of Pharmaceutical Education, 79*(2), 26-33.

Williams, R. (1999). Cultural safety - what does it mean for our work practice? *Australian and New Zealand Journal of Public Health, 23*(2), 213-214.

Williams, T. (2005). Exploring the impact of study abroad on students' intercultural communication skills: Adaptability and sensitivity. *Journal of Studies in International Education, 9*(4), 356-371.

Wood, E., & St. Peters, H. (2014). Short-term cross-cultural study tours: Impact on cultural intelligence. *The International Journal of Human Resource Management, 25*(4), 558-570.

Younas, A., Pedersen, M., & Durante, A. (2020). Characteristics of joint displays illustrating data integration in mixed-methods nursing studies. *Journal of Advanced Nursing, 76*(2), 676-686.

Zhang, Y. (2016). International students in transition: Voices of chinese doctoral students in a us research university. *Journal of International Students, 6*(1), 175-194.

Zweber, A. (2002). Cultural competence in pharmacy practice. *American Journal of Pharmaceutical Education, 66*(2), 172-176.

Appendices

Appendix 1. Review of cultural training in pharmacy education

Teaching method	Source	Country	University	Year of conducting the study	Students' level, (N)	Setting/ learning activities *(length)*	Outcomes	Assessment
1- International service learning/ education abroad	Rosemin *et al.* (2013)	Canada	University of British Columbia	2011	P2 and P3 (3)	Service learning in Uganda (6 weeks)	Knowledge Skills values	Written reflection
	VanTyle *et al.* (2011)	USA	Butler University	2007, 2009, 2010	P5 (APPE) (67)	Service learning in Mexico (2 weeks)	Students performance Students learning	Oral and written exams Homework Attendance Class participation
2- National service learning	Brown *et al.* (2007)	USA	University of Cincinnati	2003 - 2005	P1 (33)	A charitable pharmacy (St. Vincent de Paul Community Pharmacy) Activities: filling prescriptions, counselling patients, taking	Knowledge of cultural, social and civic issues and knowledge of health disparities.	Questionnaire + 4 reflective exercices.

Teaching method	Source	Country	University	Year of conducting the study	Students' level, (N)	Setting/ learning activities *(length)*	Outcomes	Assessment
						medication histories, and collaborating with other health care providers (20-60 hrs)		
	VanTyle *et al.* (2011)	USA	Butler University	2008	P5 (APPE) (5)	Supervised volunteer work at a local clinic that servers mainly Spanish speaking patients (20 hours)	Skills in Medical Spanish	Portfolio
3- Placement through Advanced Pharmacy Practice Experience (APPE)	Chen *et al.* (2008)	USA	Purdue University	2005 - 2006	APPE (26)	Simulation, role-play (PEM), visits to local homeless shelters. (10 days)	Empathy	Daily journal entries and a reflection paper
	Haack (2008)	USA	Drake University	2004 - 2007	APPE (43)	Visiting a local Mexican grocery shop, Clinical services at a homeless shelter and an HIV/AIDS clinic, Using interpreters to	Knowledge Skills Attitude	Daily reflection and Self-assessment survey of learning

Teaching method	Source	Country	University	Year of conducting the study	Students' level, (N)	Setting/ learning activities *(length)*	Outcomes	Assessment
						interview/counsel Hispanic patients (5 weeks)		
	VanTyle *et al.* (2011)	USA	Butler University	2008- 2010	P5 (APPE) (23)	Hispanic/Latino clinic (4 weeks)	Students performance	Pass/non-pass scale (by preceptors) Written reflection
4- Workshops	Arif *et al.* (2017)	USA	Midwestern University	‡	P3 (159)	Workshop: videos (3 cases prepared by the school base on teachers' experience) followed by discussion (2 hours)	Cultural awareness & knowledge	Cultural self-awareness questionnaire
	Crawford *et al.* (2016)	USA	University of Illinois	2009 - 2012	P1-4 (537)	Courses across all 4 years (Not reported)	Perceived knowledge, skills and attitude toward health disparities and sociocultural issues, and comfort level	Modified CCCQ
	Durand *et al.* (2012)	USA	Massachusetts College of Pharmacy &	2009	P2 (12)	Screening for common diseases (10 weeks)	Knowledge Encounter Awareness Desire	Pre/post-survey using IAPCC-SV

Teaching method	Source	Country	University	Year of conducting the study	Students' level, (N)	Setting/ learning activities *(length)*	Outcomes	Assessment
			Health Sciences				Skills	
5- Simulation	Brown *et al.* (2016)	USA	University of Cincinnati	2014	Undergraduates and post graduates (38)	4-hr class meetings 1 brief patient encounter 10 online activities (individual and group-based)	Knowledge Skills Attitude Awareness Confidence	Grades, reflection papers, and pre/post surveys (CCCQ)
	Chen *et al.* (2008)	USA	Purdue University, University of Connecticut	2005 - 2006	APPE (26)	Patient Empathy Modelling (PEM) (10 days)	Empathy	Jefferson Scale of Physician Empathy (JSPE) Reflection
	Chen *et al.* (2011)	USA	Purdue university	2007 - 2010	P1 (624) (4 years cohorts) (n=159,2007) (n=157, 2008) (n=149, 2009) (n= 159. 2010)	Modified version of The Geriatric Medication Game (GMG) (role-play). (3 hours)	Perception Attitude toward elderly patients' experience in health care system. empathy using survey instruments	Reflection (content analysis)
	Evans (2006)	USA	South University	2004	P3 –final year (16)	Reading assignments Written evaluations	Attitude Knowledge Skills	Assignments and participation in

Teaching method	Source	Country	University	Year of conducting the study	Students' level, (N)	Setting/ learning activities *(length)*	Outcomes	Assessment
						Case studies Simulation Guided discussion	Understanding of the rule of culture in health acre perception	class discussion
	Oliver *et al.* (1995)	USA	St. Louis College of Pharmacy	‡	P3 (63)	The Geriatric Medication Game (GMG) (role-play).	Attitude toward elderly patients Empathy	Pre/post intervention questionnaire
	Richey Smith *et al.* (2016)	USA	Midwestern, Liberal Arts University	2013 – 2014	P1 (354)	Online, open access SPENT game (50 min)	Attitude toward people in poverty	Self-report questionnaires Written reflection (qualitative analysis)
	Sales *et al.* (2013)	USA	University of Pittsburgh	‡	P2 (28)	Simulated patients (SP) exercise (1 hr)	Cultural competence (6 domains: skills, awareness, knowledge, encounter, desire, and empathy)	Pre/post intervention survey
	Trujillo and Hardy (2009)	USA	The Northeastern University	2007	P2 Pre (122) Post (43)	The Nutrition Journal and Diabetes Shopping Experience.	Confidence Attitude	Questionnaire MCQs Staff evaluation

Teaching method	Source	Country	University	Year of conducting the study	Students' level, (N)	Setting/ learning activities *(length)*	Outcomes	Assessment
						Students put themselves in the shoes of patients for 5 days.		
	Westberg *et al.* (2005)	USA	University of Minnesota	2003	P2 (50)	BaFa BaFa simulation game (60-90 min) 1 hr debriefing	Ability to provide culturally-competent care	Pre/post-intervention survey (15 questions) Reflective assignment
6- Video (case studies)	Arif *et al.* (2017)	USA	Midwestern University	‡	P3 (159)	Workshop: videos (3 cases prepared by the school base on teachers experience) followed by discussion	Cultural awareness & knowledge	Cultural self-awareness questionnaire Knowledge was assessed through MCQs to identify cultural barriers in some cases;
	Haack and Phillips (2012)	USA	Drake University	2010-2011	P1-3 2010 class (68) 2011 class (67)	(Pharmacy Skills and Application course series) - One core area of the course is ICC. The course is required each semester.	Cultural knowledge, skill, awareness, desire, & encounter	IAPCC-R

Teaching method	Source	Country	University	Year of conducting the study	Students' level, (N)	Setting/ learning activities *(length)*	Outcomes	Assessment
	Liu *et al.* (2015)	USA	Southern Illinois University	NR	P2 (80)	2 sessions 1st session: ice-breaker activity, team-based discussion, and training video (beyond vital signs) 2nd session: 2 training videos (Worlds apart) + 1 case discussion. (duration was not reported)	Attitude Knowledge Skills	CCCQ (18 items)+ evaluation of actual knowledge by MCQ & open-ended question + perception survey
	Muzumdar *et al.* (2010)	USA	University of Toledo	‡	P2 (85)	Lectures, laboratories and experimental/ external assignment. Activities: 3 videos (Power of Words, Interpreter Services, and Effective Communication with Latinos), class discussion, community group project, lectures,	Knowledge Confidence	32-item designed questionnaire using visual analogue scale and focus groups (mixed methods)

Teaching method	Source	Country	University	Year of conducting the study	Students' level, (N)	Setting/ learning activities *(length)*	Outcomes	Assessment
						readings, reflective writings, assignments on interview skills, laboratories, Human Differences paper. Visiting homeless shelters; conducting personal interviews of patients from diverse cultural backgrounds; and attending a program, function, or organizational meetings.		
	Vyas and Caligiuri (2010)	USA	University of Missouri	2009	P1 (25)	''Becoming a culturally competent provider'': (Lectures, role-play, videos (5 min clip from Grey's anatomy), communication models Religious forum: 2 hrs	Attitude toward immigrants, unclear	An 18-item survey adapted from Dogra and Karnik (2003); Westberg *et al.* (2005).

Teaching method	Source	Country	University	Year of conducting the study	Students' level, (N)	Setting/ learning activities *(length)*	Outcomes	Assessment
						(representatives from Islam, Judaism, Baha'ism, Hinduism, and an indigenous African religion) (6-weeks)		
7- Class discussion	Evans (2006)	USA	South University	2005	P3 –final year (19)	Reading assignments Written evaluations Case studies Simulation Guided discussion (elective course over summer	Attitude Knowledge Skills Understanding of the rule of culture in health acre perception	Assignments and participation in class discussion (25% of grades)
	Liu *et al.* (2015)	USA	Southern Illinois University	‡	P2 (80)	2 sessions 1st session: ice-breaker activity, team-based discussion, and training video (beyond vital signs) 2nd session: 2 training videos (Worlds apart) + 1 case discussion. (duration was not reported)	Attitude Knowledge Skills	CCCQ (18 items)+ evaluation of actual knowledge by MCQ & open-ended question + perception survey

Teaching method	Source	Country	University	Year of conducting the study	Students' level, (N)	Setting/ learning activities *(length)*	Outcomes	Assessment
8- Guest speakers	Durand *et al.* (2012)	USA	Massachusetts College of Pharmacy & Health Sciences	2009	P2 (12)	Screening for common diseases and presentation on specific culture.	Knowledge Skills Awareness Desire Encounter Skills	IAPCC-SV
	Evans (2006)	USA	South University	2005	P3 –final year (19)	Reading assignments Written evaluations Case studies Simulation Guided discussion (elective course over summer	Attitude Knowledge Skills	Assignments and participation in class discussion
9- Lectures	Assemi *et al.* (2004)	USA	University of California San Francisco	2003	P1-4 (56)	8-hour elective course Offered in 2 occasions (January and June) (8 hours)	Knowledge, Awareness, Skills	Designed survey (12 items)
	Durand *et al.* (2012)	USA	Massachusetts College of Pharmacy & Health Sciences	2009	P2 (12)	Screening for common diseases and presentation on specific culture.	Knowledge Encounter Awareness Desire Skills	IAPCC-SV

Teaching method	Source	Country	University	Year of conducting the study	Students' level, (N)	Setting/ learning activities *(length)*	Outcomes	Assessment
10- Team-based learning	Poirier *et al.* (2009)	USA	Southern Illinois University Edwardsville	2007	P3 (81)	New course (3-credit) on health promotion and literacy used team-based learning approach: 81 students organized into 16 teams	Cultural awareness; knowledge; skills; encounters; and desire Learning	IAPCC-R, reflective portfolio, readiness assessment tests RATs, the summative team project, in-class assignments
11- Online discussion with students from a foreign institution	Wilby *et al.* (2015)	Qatar and Canada	Qatar University & University of Saskatchewan	2014	P4 (22 from Qatar) P2 (22 from Canada)	Case discussions (2 hours)	Students engagement in discussions	Observation by staff members
12- Language training	VanTyle *et al.* (2011)	USA	Butler University	2004 - 2010	APPE (127)	Classes in Spanish (55 hours)	Spanish language skills	Exams

‡ stands for not reported information

Appendix 2. Assessment of ICC in pharmacy education

Tool name	No. of items	Dimensions	Scale used	Source	University, level of study (N)	Design
Self-Assessment of Perceived Level of Cultural Competence (SAPLCC) questionnaire	68	6 dimensions: Knowledge Skills Attitude Encounters, Abilities, and Awareness	5-point Likert scale 1: Not at all, 2: A little, 3: Somewhat, 4: Quite a bit, 5: Very	Echeverri *et al.* (2013)	Xavier University of Louisiana, USA P1-4 (467)	Cross sectional
Clinical Cultural Competency Questionnaire (CCCQ)	49	5 dimensions: Knowledge Skills Comfort Attitude Previous training	5-point Likert scale 1: Not at all and 5: Very. Attitude: 6–point Likert scale (I don't know was added and given 0 value)	Brown *et al.* (2016)	University of Cincinnati, USA UG & PG (38)	Pre/post survey
	54	Level of comfort with various patients	5-point Likert scale 1: None 5: A lot	Cooper, Vellurattil, and Quiñones-Boex (2014)	Midwestern University Chicago, USA P4 (APPE) (124)	Cross-sectional

Tool name	No. of items	Dimensions	Scale used	Source	University, level of study (N)	Design
	57	4 dimensions: Attitude Skills Knowledge Comfort level	5-point Likert scale 1: Not at all, 2: A little, 3: Somewhat, 4: Quite a bit, 5: Very	Crawford *et al.* (2016)	University of Illinois, USA 2009: P1- (151) P2- (103) P3- (146) P4- (137) P4- 2012: (124)	Longitudinal and cross-sectional
	18	4 dimensions Skills (8 items) Knowledge (3), Comfort levels with encounters/situations (6) Attitude (2).	5-point Likert scale 1: Not at all, 2: A little, 3: Somewhat, 4: Quite a bit, 5: Very	Liu *et al.* (2015)	Southern Illinois University Edwardsville (SIUE), USA P2 (80)	Pre/post survey
	52	6 dimensions: Knowledge of health disparities Skills in dealing with sociocultural issues Comfort level in dealing with cross-cultural encounters/situations	5-point Likert scale 1: Not at all, 2: A little, 3: Somewhat, 4: Quite a bit, 5: Very	Okoro *et al.* (2015)	University of Florida, USA P3 2010: (184) 2011: (199) 2012: (190)	Cross-sectional

Tool name	No. of items	Dimensions	Scale used	Source	University, level of study (N)	Design
		Attitude toward factors contributing to health disparities Self-awareness Previous training in cultural diversity				
	63	6 dimensions: Knowledge of health disparities Skills in dealing with sociocultural issues Comfort level in dealing with cross-cultural encounters/situations Attitude toward factors contributing to health disparities Self-awareness Previous training in cultural diversity Demographic characteristics	5-point Likert scale 1: Not at all, 2: A little, 3: Somewhat, 4: Quite a bit, 5: Very	Okoro, Odedina, Reams, and Smith (2012)	University of Florida (UFL) and Florida A&M University (FAMU), USA P3 (304)	Cross-sectional
The Medical Students' Attitudes Toward the Underserved (MSATU) survey	37	2 dimensions Attitude (23 items) Service (14 items)	5-point Likert scale 5: Strongly agree, 1: Strongly disagree	Crandall, Davis, Broeseker, and Hildebrandt (2008)	2 southern universities, USA Pharmacy students (85) Medical students	Longitudinal comparison of pharmacy and medical students

Tool name	No. of items	Dimensions	Scale used	Source	University, level of study (N)	Design
					(55)	
Cultural self-awareness	13	2 dimensions Knowledge (9: 2 T/F, 7 MCQs) Attitude (3: yes/no questions, 1: 5-point Likert scale)	MCQs T/F Yes/no questions 5-point Likert scale: 1: Not at all 2: A little 3: Somewhat 4: Quite a bit 5: Very	Arif *et al.* (2017)	Midwestern University, USA P3 (159)	Pre/post survey/ quasi-experimental
IAPCC-R	25	5 dimensions: Cultural desire, Cultural awareness, Cultural knowledge, Cultural skill, and Cultural encounters	4-point Likert scale	Haack and Phillips (2012)	Drake University, USA P1-3 2010 class (68) 2011 class (67	Case-control
	25	5 dimensions: Cultural desire, Cultural awareness, Cultural knowledge, Cultural skill, and Cultural encounters	4-point Likert scale	Poirier *et al.* (2009)	Southern Illinois University, USA P3 (81)	Pre/post survey
IAPCC-SV	20	5 dimensions: Cultural desire,	4-point Likert scale	Durand *et al.* (2012)	Massachusetts College of	Pre/post survey

Tool name	No. of items	Dimensions	Scale used	Source	University, level of study (N)	Design
		Cultural awareness, Cultural knowledge, Cultural skill, and Cultural encounters			Pharmacy & Health Sciences, USA P2 (12)	
Jefferson Scale of Physician Empathy (JSPE)	20	Perspective taking Compassionate care Ability to stand in the patient's shoes	7-point Likert scale 1: Strongly disagree, 7: Strongly agree	Chen *et al.* (2008)	Purdue University, University of Connecticut, USA APPE (26)	Pre/post survey
Wesleyan Intercultural Competence Scale (WICS)	16	Situational Judgment Test (SJT) Each situation has six different response options designed to reflect the six levels of intercultural competence proposed by Bennett (1986). WICS Score = (-2.5 x Denial) + (-1.5 x Defence) + (-0.5 x Minimization) + (0.5 x Acceptance) + (1.5 x Adaptation) + (2.5 x Integration).	5-point Likert scale 1: Very inaccurate 5: Very accurate	Dang *et al.* (2019)	University of Maryland Eastern Shore, USA P3 (48)	Cross-sectional

Tool name	No. of items	Dimensions	Scale used	Source	University, level of study (N)	Design
		Scores range from -18 to 18.				
Adapted from other studies	8 out of 33	Perceptions about the level of comfort and the need of speaking languages other than English	5-point Likert scale	Barner (2000)	University of Texas, USA P1 (112)	Pre/post survey
	15	6 dimensions: Knowledge Skills Awareness Encounters Desire Empathy	5-point Likert scale 1: Strongly agree 5: Strongly disagree	Sales *et al.* (2013) Tool was adapted from a study in nursing Sealey, Burnett, and Johnson (2006)	University of Pittsburgh, USA P2 (84)	Pre/post survey
	18	Self-awareness	5-point Likert scale	Vyas and Caligiuri (2010) The tool was adapted from Westberg *et al.* (2005)	University of Missouri, USA P1 (25)	Pre/post survey

Tool name	No. of items	Dimensions	Scale used	Source	University, level of study (N)	Design
	12	Confidence	5-point Likert scale 1: Not at all confident, 2: Not very confident, 3: Moderately confident, 4: Very confident, 5: Extremely confident.	White-Means *et al.* (2009) The tool was adapted from Assemi *et al.* (2004)	University of Tennessee Health Science Center, USA (P 1,3,4), (189)	Pre/post survey
Self-designed surveys	12	Confidence	5-point Likert scale 1: Not at all confident, 2: Not very confident, 3: Moderately confident, 4: Very confident, 5: Extremely confident	Assemi *et al.* (2004)	University of California San Francisco, USA P1-4 (56)	Pre/post survey quasi-experimental
	23 (pre) 32 (post)	Willingness to work in various health care settings (7-point Likert scale) Opinion on cultural, social, and civic issues (7-point Likert scale)	5-point and 7-point Likert scales 1: Strongly agree 7: Strongly disagree).	Brown *et al.* (2007)	University of Cincinnati, USA P1	Pre/post survey

Tool name	No. of items	Dimensions	Scale used	Source	University, level of study (N)	Design
		Perceived knowledge of health disparities (5-point Likert scale)	Another 7-point Likert scale (1: Very willing, 7: Very unwilling) 5-point Likert scale 1: No knowledge or understanding, 5: Extensive knowledge or understanding		(33)	
	21	3 dimensions: Knowledge Skills Attitude	3 and 5-point Likert scales	Falter *et al.* (2011)	Lake Erie College of Osteopathic Medicine (LECOM) School of Pharmacy, USA P1 (96)	Pre/post survey
	7	Skills	4-point scale 1: Strongly disagree 4: Strongly agree 5-point scale 1: Never 2: Once in a while 3: Sometimes	Jarvis *et al.* (2004)	University of Colorado, USA P1 (173)	Post-service evaluation

Tool name	No. of items	Dimensions	Scale used	Source	University, level of study (N)	Design
			4: Fairly often 5: Very often			
	6	Skills	6-point Likert scale 1: strongly agree 6: strongly disagree	Mansi *et al.* (2004)	The University of Mississippi, USA P3 (control) (75) P4 (role-play) (66)	case control
	32	2 dimensions: Knowledge Confidence	Visual analogue scale	Muzumdar *et al.* (2010)	University of Toledo, USA P2 (85)	Mixed methods: Pre/post survey + focus group
	18	Knowledge Attitude	5-point Likert scale	Westberg *et al.* (2005)	University of Minnesota, USA P2 pre: (52) post: (48)	Pre/post survey

Appendix 3. Consent form

CONSENT FORM

(Draft Version 1.0/ Final version 1.0)

Title of Study: Understanding Intercultural Competence (ICC) amongst Pharmacy Undergraduates

Name of Researcher: Norah Alosaimi

Please initial box

Name of Participant:

1. I confirm that I have read and understand the information sheet version number 1.0 for the above study and have had the opportunity to ask questions ☐

2. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason, and without my medical care or legal rights being affected. I understand that should I withdraw then the information collected so far cannot be erased and that this information may still be used in the project analysis. ☐

3. I understand that data collected in the study may be looked at by authorised individuals from the University of Nottingham, the research group and regulatory authorities where it is relevant to my taking part in this study. I give permission for these individuals to have access to these records and to collect, store, analyse and publish information obtained from my participation in this study. I understand that my personal details will be kept confidential. ☐

4. I understand that data collected in the study may be looked at by authorised individuals from the University of Nottingham, the research group and regulatory authorities where it is relevant to my taking part in this study. I give permission for these individuals to have access to these records and to collect, store, analyse and publish information obtained from my participation in this study. I understand that my personal details will be kept confidential. ☐

5. I understand that the interview will be recorded and that anonymous direct quotes from the interview may be used in the study reports.

6. I understand that the information collected about me will be used to support other research in the future, and may be shared anonymously with other researchers. ☐

7. I agree to take part in the above study. ☐

_____	_____	_____
Name of Participant	Date	Signature
Norah Alosaimi	**/ /2018**	_____
Name of Person taking consent	Date	Signature

3 copies: 1 for participant, 1 for the project notes and 1 for the medical notes (as appropriate)

Appendix 4. Ethical approval for the protocol and amendments

Email 1: ethical approval of the protocol

Dear Matt

The School of Pharmacy Research Ethics Committee is happy to approve the Application 031-2017 entitled “Understanding intercultural competence (ICC) among pharmacy undergraduates”. However, committee members have requested the following changes or clarifications:

- Remove coloured text on participant information sheet

- Could the reasons be clarified why data can’t be erased on withdrawal of consent. This is unusual and potentially controversial.

Your reference for this project approval is 031-2017fr.

Good luck with your work,

Franco

E-mail 2: Approval of the protocol amendment

Dear Norah,

I have no objection; amendment approved. However, you need to take into consideration that the new European Union GDPR laws also apply to research involving people.

This means that any study now needs to be fully compliant with GDPR regulations. In practice, this means that participants need to be supplied with a specific statement in accordance with GDPR. As this is a new requirement, I am not yet able to provide a template and all the guidance regarding this has been sent to all members of staff last week.

Best wishes

Franco

****
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Appendix 5. The cultural diversity questionnaire

Cultural diversity in pharmacy education questionnaire

We are trying to gain a better understanding of the students' skills and needs regarding cultural diversity from a students' perspective. Please help us by taking the time to answer this questionnaire.

This questionnaire will take approximately 10-15 minutes to complete. All questionnaires will remain anonymous and no individual student will be identified. The results will be used for your benefit to inform the design of further educational activities in the School of Pharmacy at Nottingham and so your input is very important. We intend to publish the results of this research in academic journals.

Norah Alosaimi
Supervisors
Dr Matthew Boyd and Dr Helen Boardman

Section A: Cultural intelligence scale (CQS)

Read each statement and select the response that best describes your capabilities. Select the Answer that BEST describes you AS YOU REALLY ARE.

Use the following format:

1	2	3	4	5	6	7
Very Strongly Disagree	**Strongly Disagree**	**Disagree**	**Not Decided**	**Agree**	**Strongly Agree**	**Very Strongly Agree**

1.	I am conscious of the cultural knowledge I use when interacting with people with different cultural backgrounds.	1	2	3	4	5	6	7
2.	I adjust my cultural knowledge as I interact with people from a culture that is unfamiliar to me.	1	2	3	4	5	6	7
3.	I am conscious of the cultural knowledge I apply to cross-cultural interactions	1	2	3	4	5	6	7
4.	I check the accuracy of my cultural knowledge as I interact with people from different cultures.	1	2	3	4	5	6	7
5.	I know the legal and economic systems of other cultures.	1	2	3	4	5	6	7
6.	I know the rules (e.g. vocabulary, grammar) of other languages.	1	2	3	4	5	6	7
7.	I know the cultural values and religious beliefs of other cultures.	1	2	3	4	5	6	7
8.	I know the marriage systems of other cultures.	1	2	3	4	5	6	7
9.	I know the arts and crafts of other cultures.	1	2	3	4	5	6	7
10.	I know the rules of expressing non-verbal behaviours in other cultures.	1	2	3	4	5	6	7
11.	I enjoy interacting with people from different cultures.	1	2	3	4	5	6	7
12.	I am confident that I can socialise with locals in a culture that is unfamiliar to me.	1	2	3	4	5	6	7

13. I am sure that I can deal with the stresses of adjusting to a culture that is new to me	1	2	3	4	5	6	7
14. I enjoy living in cultures that are unfamiliar to me.	1	2	3	4	5	6	7
15. I am confident that I can adapt to the shopping conditions in a different culture.	1	2	3	4	5	6	7
16. I change my verbal behaviour (e.g. accent tone) when cross-cultural interaction requires it.	1	2	3	4	5	6	7
17. I use pauses and silences in my speech to suit different cross-cultural situations.	1	2	3	4	5	6	7
18. I vary the speed of my speech when a cross-cultural situation requires it.	1	2	3	4	5	6	7
19. I change my non-verbal behaviour when a cross-cultural situation requires it.	1	2	3	4	5	6	7
20. I alter my facial expressions when a cross-cultural interaction requires it.	1	2	3	4	5	6	7

Section B: Demographics and education

Ethnicity

21. What is your ethnic group?

Choose **one** section from A to E, then tick **one** box to best describe your ethnic group or background

A. White

☐ English/Welsh/Scottish/Northern Irish/British

☐ Irish

☐ Gypsy or Irish Traveller

☐ Any other White ethnic background (please specify):
……

B. Mixed/multiple ethnic groups

☐ White and Black Caribbean

☐ White and Black African

☐ White and Asian

☐ Any other Mixed/multiple ethnic background (please specify):
……

C. Asian/Asian British

☐ Indian ☐ Bangladeshi
☐ Pakistani ☐ Chinese

Any other Asian background (please specify): ……

D. Black/African/Caribbean/Black British

☐ African ☐ Caribbean
☐ Any other Black /African/Caribbean background (please specify): ……

E. Other ethnic group

☐ Arab ☐ Any other ethnic group (please specify): ……

22. Is English your first language?

☐ Yes ☐ No

23. If English is your second language, please indicate your level of English assessment you have completed:

A. IELTS ☐ 6 ☐ 6.5 ☐ 7 ☐ 7.5 ☐ 8 ☐ 8.5 ☐ 9
B. CEF ☐ A ☐ B ☐ C
C. CAE ☐ A ☐ B ☐ C

Do you speak any other language(s) other than English?

☐ Yes, please list ☐ No

……

24. What language(s) do you use with your family?

……

25. What is your religion?

☐ No religion ☐ Jewish
☐ Christian (including Church of England, Catholic, Protestant and all other Christian denominations) ☐ Muslim
☐ Buddhist ☐ Sikh
☐ Hindu ☐ Any other religion, specify: ……

26. How old are you?

……

27. Are you

☐Male ☐Female ☐Prefer not to say

28. What programme are you studying in?

☐MPharm UK 2+2 MPharm

29. What year are you studying in?

☐year 4 year 5

30. Have you ever lived in any countries outside your home country?

☐ Yes ☐ No

31. If you have lived abroad, what are others countries have you lived in, use the box below to specify the period in months or years?

Country	Period (months, years)

32. What is the occupation, if any, of your father (or stepfather or male guardian/carer that you have lived with most recently)?

……

33. What is the occupation, if any, of your mother (or stepmother or female guardian/carer that you have lived with most recently)?

……

34. Do you currently share your accommodation with a person from culture different than you?

☐ Yes ☐ No

35. Do you feel that you need further activities to work with students from different cultural backgrounds (different nationalities, gender, age, and ethnicity)

☐Yes ☐No

36. Please provide the reason your answer:

……

……

37. Where are you planning to work after graduation?

☐ UK ☐ My home country, name _____ ☐ Foreign country, name _____ ☐ I do not know

38. Where did you complete your recent education?

☐ UK ☐ My home country, name _____ ☐ Foreign country, name _____

39. Do you believe curricula should teach you about global issues of health?

☐ Yes ☐ No

40. Can you provide the reason for your answer?

……

……

41. Do you believe curricula should teach you about the role of pharmacist in health issues in other countries?

☐ Yes ☐ No

42. Can you provide the reason for your answer?

……

……

Please read the following statements and tick the box corresponding to how strongly you agree or disagree with each one

43. My social group is mainly from the same culture as me

☐Strongly agree ☐Agree ☐Neutral ☐Disagree ☐Strongly disagree

44. Where I grew up is a very multicultural area

☐Strongly agree ☐Agree ☐Neutral ☐Disagree ☐Strongly disagree

45. At school, I mainly spent time with people from my own culture

☐Strongly agree ☐Agree ☐Neutral ☐Disagree ☐Strongly disagree

46. I sometimes struggle to communicate with people who don't speak good English

☐Strongly agree ☐Agree ☐Neutral ☐Disagree ☐Strongly disagree

47. My school was very ethnically diverse

☐Strongly agree ☐Agree ☐Neutral ☐Disagree ☐Strongly disagree

48. I grew up in a large city

☐Strongly agree ☐Agree ☐Neutral ☐Disagree ☐Strongly disagree

49. I don't believe that my cultural or ethnic group is any better than any other

☐Strongly agree ☐Agree ☐Neutral ☐Disagree ☐Strongly disagree

50. In general, I prefer doing things with people from my own culture than with people from different cultures

☐Strongly agree ☐Agree ☐Neutral ☐Disagree ☐Strongly disagree

51. I avoid socialising with students who speak different language than me

☐Strongly agree ☐Agree ☐Neutral ☐Disagree ☐Strongly disagree

52. My previous experiences with people from different cultural background are positive

☐Strongly agree ☐Agree ☐Neutral ☐Disagree ☐Strongly disagree

53. I did not feel confident enough to participate in class discussion because of my language

☐Strongly agree ☐Agree ☐Neutral ☐Disagree ☐Strongly disagree

54. I would like to have more activities to engage with students from different cultures

☐Strongly agree ☐Agree ☐Neutral ☐Disagree ☐Strongly disagree

55. Adjustment to university expectations is difficult for me

☐Strongly agree ☐Agree ☐Neutral ☐Disagree ☐Strongly disagree

56. Curricula provided me with knowledge about my role as pharmacist in the globe

☐Strongly agree ☐Agree ☐Neutral ☐Disagree ☐Strongly disagree

57. Curricula provided me with knowledge about biological differences in different ethnic groups

☐Strongly agree ☐Agree ☐Neutral ☐Disagree ☐Strongly disagree

58. I have received enough education about variation in health outcomes based on race

☐Strongly agree ☐Agree ☐Neutral ☐Disagree ☐Strongly disagree

59. Please can you tell us what you think would benefit students in working with other students from different cultural background?

……

……

……

……

……

60. Please tell us what you think the ADVANTAGES are of working with students from different cultural backgrounds
……
……
……
……

61. Please tell us what you think the DISADVANTAGES are of working with students from different cultural backgrounds
……
……
……
……

62. If an activity on cross-cultural communication skills was offered by the Pharmacy school, what would you like the focus to be on (knowledge about certain cultures, expectations in communication, etc)?
……
……
……
……

63. If an activity on cross-cultural communication skills was offered by the Pharmacy school, what format would you prefer (guest speakers from specific groups, workshop, etc.)?
……
……

64. Please offer any comments on these questions or suggestions that you may have below.

……

……

……

……

……

Thank you for completing this questionnaire.

Appendix 6. Invitation email to pilot the questionnaire

Dear XXX,

Please let me introduce myself. I am Norah Alosaimi and am a PhD student in the division of Pharmacy Practice and Policy at the Nottingham School of Pharmacy under the supervision of Drs Matthew Boyd and Helen Boardman.

I am exploring students' opinion and experiences of cultural diversity using a questionnaire to inform future development of educational activities at School of Pharmacy in The University of Nottingham. I am in the process of testing out the functionality prior to sending it out to current year 4 students (i.e. checking whether it works as it should).As a recent graduate, I would like to invite your views and comments on the questionnaire.

If you would be willing to assist the test will involve:

1. Completing the questionnaire
2. Providing some short feedback at the end of each page of the questionnaire.

The task shouldn't take more than 15 minutes, if it does please add this to your feedback. All data will be held confidentially and any presentation of this pilot work will be reported anonymously. If you have any concerns or questions please feel free to contact me or my supervisors (Matthew.boyd@nottingham.ac.uk 0115 951 5061, Helen.boardman@nottingham.ac.uk 0115 951 4291).

To access the survey please click here: LINK

I would like to thank you in advance for your comments.

Norah Alosaimi

PhD Student

Norah.alosaimi@nottingham.ac.uk 01158466245

Appendix 7. Interview guide

Introduction of the researcher

Restatement of the project and its aim.

Would you like to start by telling me about your background, your family and how is it like in your home?

I should say that there is no right or wrong answer as such. I am just interested in your views. How do you see culture?

What do you think is your cultural identity?

Do you share your accommodation with people from different cultural backgrounds?

Tell me more about your experience.

Are you part of any societies in the university?

Tell me about your experience of studying with students from different cultural backgrounds in the school?

If group work is mentioned, tell me more about your group, how many? Where are they from?

If working with patients is mentioned, tell me more about your experiences working with patients from different backgrounds.

Could you give me examples of times when your pharmacy student colleague acted in an acceptable way or avoided a situation due to cultural differences?

What would you offer as a suggestion or piece of advice for The School to ensure positive work environment for students during curricular activities

Is there something you would like to tell me about at the end?

Appendix 8. Participation form

Name:

Email:

Mobile phone number:

Nationality:

Gender □ Male □ Female □ Prefer not to say

Programme of study? □ 4 Year MPharm (B230) □ 2+2 MPharm □ 5 Year MPharm UK (B236)

What would be the suitable **day** for you to be interviewed?

(this is suggested day and will be contacted to confirm the day or change it)

□ This week, specify …… □ Next week, specify …… □ Over summer (July-September), specify ……

What would be the suitable **time** for you to be interviewed?

(this is suggested time and will be contacted to confirm the day or change it)

□ Morning (9-12) □ Afternoon (12:30-5) □ Evening (6-8)

How would you like to be interviewed?

□ Face-to-face interview □ Telephone interview □ Others, specify ……

Where do you prefer to be interviewed?

□ University Park □ Jubilee campus □ Somewhere else, specify ……

If you have any concern or other preferences you want me to be aware of, please state them here

……
……
……

Thank you. Your participation in this project is much appreciated.
You will be contacted to arrange an interview at a mutually convenient time.

Please return completed forms to Norah Alosaimi, in the feedback table or Room C20,
School of Pharmacy Building

Appendix 9. Initial thematic matrix

Theme/ subthemes/ codes	Quotes
• **Cultural background and upbringing**	
○ **School life and cultural diversity**	P2: "All of us were Nigerian. It was not common for you to see foreigners in schools in Nigeria."
	P2: "it was not common to have some of those British or Australian"
	P1: "it's actually should be quite diverse"
• **Familiarity from prior experiences (contact)**	
○ **Time of the contact**	P2 : "taking an extra step of forging the friendship, getting to know each other I feel first year was the best time for that for a lot of people including myself"
	P2: "in fourth year, you already know who, like shall I say, your teams are, like your friends that you always study with them, I live with them and stuffs like that. Fourth year is just focused on graduating and not really focused on making friends for a lot of people I'd (?) say"
	P2: "we all knew each other from the first year. And me in this year I know nobody"
	P2: "in my year, the year that was graduated last year, I had a lot of friends and the relationship was very very friendly, it's transcendent beyond professionalism and school"
	P2: "it doesn't to do with cultural background or anything, it's just because I didn't start the first year with them."
	P2: "as I said I've been here since college and that's giving me enough time to properly integrating into the British culture and understand how to communicate, the lingo? How to crack (?) How to easen the communication to people"
	P2: "there are a lot of British Nigerian in the uni, some I am familiar with them. And currently I am familiar with British students and the British culture then, umm s Indians as well, I'm familiar with Indians as well, but Indian that come from abroad not students who have the Indian heritage and that's because in Nigeria we have Indian immigrants as well, as well as Lebanese. So I'm sort of familiar with them because I remember in first year had

	Indian friends that were from Nigeria and they have Nigerian accent so to me was weird to see someone who is Indian speaking the language just like mine those students I am more familiar with them, yeah"
○ **Extent of the contact** ▪ **Segregation** ▪ **Avoidance behaviour of cultural differences** ▪ **Preferences of interaction** ▪ **Requirement of activities**	P2: I think the second workshop wasn't that helpful because I just sat with my closest friend this year, but all the Malaysian students in my groups just sat together it was a sort of herd of (?) Malaysian students on this side and other on that side, you did not have to sit within your group, but one of the communication workshop for the PLM, the first one I think we had to sit within our groups and talk with each other so that one was very helpful, but the other one wasn't"
	P2: "but we are just, because we are sitting down with our friends, it wasn't helpful as a communication"
• **The dynamics of the team**	
○ **Initiation of the interactions** ▪ **Need of engaging activities in year 3**	P2: "I'd just say that in third year, they should try to like mix it up a bit more"
	P2: "I think in year 3, they should do a bit more because the only sort of interaction I had with like Malaysian students in third year was like during my dissertation when we had groups working in labs"
	P2: "in fourth year where basically every module we have in fourth year, there's been an equal mix between home students and international and Malaysian students, but we didn't have that in that much in third year "
	P1: "basically when I came here in year 3 we do not really get much to have like close up and in touch with most of the local students"
	P1: "everyone can break the ice, I'm not sure how year 3 can blend with local students"
○ **Attitude toward others**	P2: "they are quite (Receptive?) and friendly and it was really easy just integrating in the groups for PLM and other exercises we have to do"
	P2: "it's their friendliness and openness that helped me to settle in"
	P2: "we are quite respective? Respectful as well, respectful of each one's points and opinions, that's way communication isn't a problem or hasn't been a problem so far"
	P1: "we make decisions in our group instead of a personal position like Oh, I say this and you follow me this. Not really in that way. But other groups I can say for some groups yes (laugh) Yeah. So, I don't think it is a good way to bring, to do all the group tasks in this way"

	P1: “umm I don’t say that we have much problem in our group, but umm because most of the time we tend to listen to each other instead of like just follow”
	P1: “, it’s like they try to be like, the local students try to be like I am powerful because I am there to voice up, I’ve got a lot of opinions when for example when a lecturer approach in a small group the local student will try to be the first one to voice up and try to like umm, get the lecturer away from ok so in this group I am the one who are voicing up things”
	P1: “They [local students] won’t say like oh, you [Malaysian students] are so bad. No, they won’t say it. But everything you can see from their expressions”
	P1: “they [home students] can be annoyed sometimes from their face expressions, just they don’t voice it directly [to Malaysian students]”
	P1: “local students, don’t take it that way they judge you before they know you”
	P1: “I won’t fully blame the local students as well, but sometimes Malaysian students tend to be in their comfort zone, speaking their own language which, it is makes the other students hard to blend in the conversation”
○ **The type of exercise**	P1: “we get the chance to blend with the local students, but when it came to case study, people might tend to go back to the comfort zone people where they come from”
	P1: “when maybe you won’t say like that big problem won’t be seen in a big group, but definitely you’re working with 2 people in small group you will have a lot of arguments and umm communication problems if things don’t got solved.”
	P1: “although we do not voice up sometimes, we can do things as well instead of umm sitting there doing nothing”
• **The language proficiency**	
○ **Language barrier**	P2: “but with Malaysian students, it’s first, for sometimes for certain students, the language can be a barrier”

	P2: “because you don’t know what to say to that person, you find yourself not expressing yourself as much as you would like to and even when you try to be expressive, because of the **language barrier**, it can come across as rude or umm probably dominant and I can see that in certain groups that I know of, there has been a couple of instances of fractures, it’s not that common, but as I said”
	P1: “some of them may think it is a big barrier for them to not, to stand up from the comfort zone, discuss your opinion with them, but what I think is if you just (bring?) in your own comfort zone and you don’t come up, you will get more like, the local students won’t understand why are doing like that “Why are you not talking?””
	P1: “I think it is not easy to come up from the comfort zone. This is affects most Malaysian or foreign students when they come to the UK because as you said language is one of the barrier”
○ **Preferences to work with specific students**	P2: “because for some weird reasons I noticed that Malaysian students have like serious work ethic (?) like when you put them for one thing they do it. If it comes to the research for the work we have to do, like I don’t know, I’d prefer having a Malaysian student because back in the first semester when we had (ATT, ETT?) when we had to design anti-malarial drugs and everything, the Malaysian students in our group they were like we are better (than us?) in chemistry and biology aspects of it and it’s not like we are the most stupid but they are most of the time teaching us”
○ **Time needed to articulate the speech**	P1: “most of the time you can say local students are dominating the groups because Malaysian students try to listened before they talk”
	P1: “Malaysian needs to take longer time to prove to the local student that we can do things as well”
	P1: “just we need to take longer time”
	P1: “we need time to prove ourselves to them”
	P1: “just they [Malaysian students] need time”

○ **The quality of speech?**	P2: "home students tend to take the lead, and it makes more sense because not just home students, students who are very fluent in English, like there are a couple of Malaysian students who are very fluent and there are a lot of them who are not fluent and they don't speak clear enough, so in presentation and let's say exercise that requires talking to a lot of people, home students and people who are fluent in English tend to take the lead."
○ **Difficulties in saying the message** ▪ **Need of assistance** ▪ **Extent of discussion**	P2: "In discussions like that they tend to say what is important and those of us who are fluent in English we try our hardest to try to understand what they are trying to say and complete their sentences sometimes and ask them is this what you are trying to say and they say yes what I'm trying to say so when we have the group discussions and trying to decide on the something or who is trying to do this and that"
	P2: "in discussions, they are vocal but not very vocal, they just say one or 2 sentences that are important, not like engaging for long discussions so, it's just, they just what is needed and what is not"
	P2: "the communication between me and the home students is I'd say easier than with Malaysian students because as I said I've been here since college and that's giving me enough time to properly integrating into the British culture and understand how to communicate, the lingo? How to crack (?) How to easen the communication to people"
	P1: "They will start to question like, do you have any questions? Do you have any problems? So, but the problem is if they tend to come up with a lot of questions to you urm in a lot of times. Let's say if this is the first time to ask you are alright, second time they try, third time, fourth time, they also get tired up as well (laugh) because they don't get any response from you, yeah, if you just keep quite in the group and that's why I think in year 4 there are quite many cases like this they don't really voice up and like sometimes just let the year 4 students the local student to lead them. But then, they themselves don't really agree with what the local student did sometimes, so it is like misunderstood happens"
○ **Speaking vs writing skills**	P2: "because in my group, one of the group members isn't as fluent in English, but her written English is good, so group chat like on WhatsApp, like there is no problem in communication because everyone is good in written this type of English, but in physical scenarios, there tend to be a bit of sorts of barrier or a bit of struggle to kind of trying to understand what they're saying sometimes"
○ **Impact on marks**	P2: "the Malaysian students in my group are, I remember when we had to do a presentation, they just naturally selected home students or me who are fluent in English because they knew that to get more marks we had to

	give someone who is fluent in English and they were ready to just do the research or help us as much as they can with the research (?instead of doing?) the presentation or something"
• **Perceptions about cultural differences**	
○ **Negative**	P2: "because of the cultural differences and you find yourself asking questions and trying to get to know them and.. that might be **a bit tedious** to do but I'd with home students it's easier for me, or it's been easier for to communicate"
	P1: "Just how you bring yourself in with them because as we know that Malaysian most of us is quite shy"
	P1: "but it as long as it don't going to affect our thinking as how people judge you, how people are gonna judge you based on your language, based on the way and based on the slang and the accuracy of your pronunciation"
	P1: "They [home students] tend to be like because we are brave to voice up our opinions that's why we're better than others"
	P1: "just like Malaysian is try tend to be a little bit shy"
	P1: "they don't think it's important [to mix with other students from different cultures]
○ **Positive**	P2: "we all understand that we are all intelligent and have different strengths"
	P1: ". Because as I was saying they [home students] have got a lot of creativity, but Malaysians are very little (laugh)"
	P1: "It's a very good time and is a very good period for us to learn from each other"
	P1: "and the same for them, they can learn as well. **I'm not sure whether they want to learn from us** (laugh), but umm I'd say both parties have to expose things differently"

Appendix 10. Results of the cultural diversity questionnaire

Table 31. Results of the CQS

#	Category/code	Question text	1 (VSD)	2 (SD)	3 (D)	4 (ND)	5 (A)	6 (SA)	7 (VSA)
1	MC-CQ1 (n=98)	I am conscious of the cultural knowledge I use when interacting with people with different cultural backgrounds	1 (1)	1 (1)	3 (3)	5 (5)	54 (55)	23 (24)	11 (11)
2	MC-CQ2 (n=98)	I adjust my cultural knowledge as I interact with people from a culture that is unfamiliar to me	1 (1)	1 (1)	6 (6)	7 (7)	46 (47)	28 (29)	9 (9)
3	MC-CQ3 (n=97)	I am conscious of the cultural knowledge I apply to cross-cultural interaction	1 (1)	1 (1)	2 (2)	14 (14)	44 (46)	25 (26)	10 (10)
4	MC-CQ4 (n=97)	I check the accuracy of my cultural knowledge as I interact with people from different cultures	1 (1)	4 (4)	11 (11)	12 (12)	36 (37)	20 (21)	13 (14)
5	Cog-CQ1 (n=96)	I know the legal and economic systems of other cultures	7 (7)	10 (10)	32 (34)	23 (24)	16 (17)	4 (4)	4 (4)
6	Cog-CQ2 (n=95)	I know the rules (e.g. vocabulary, grammar) of other languages	6 (6)	4 (4)	36 (38)	13 (14)	21 (22)	10 (11)	5 (5)
7	Cog-CQ3 (n=95)	I know the cultural values and religious beliefs of other cultures	1 (1)	3 (3)	11 (12)	15 (16)	43 (45)	15 (16)	7 (7)
8	Cog-CQ4 (n=95)	I know the marriage systems of other cultures	5 (5)	6 (6)	30 (32)	18 (19)	27 (29)	5 (5)	4 (4)
9	Cog-CQ5 (n=95)	I know the arts and crafts of other cultures	8 (8)	11 (12)	26 (28)	19 (20)	22 (23)	6 (6)	3 (3)
10	Cog-CQ6 (n=95)	I know the rules of expressing non-verbal behaviours in other cultures	4 (4)	13 (14)	27 (29)	15 (16)	26 (27)	6 (6)	4 (4)
11	Beh-CQ1 (n=96)	I enjoy interacting with people from different cultures	1 (1)	1 (1)	2 (2)	1 (1)	36 (38)	31 (32)	24 (25)

12	Beh-CQ2 (n=96)	I am confident that I can socialise with locals in a culture that is unfamiliar to me	1 (1)	2 (2)	12 (13)	10 (10)	40 (42)	20 (21)	11 (11)
13	Beh-CQ3 (n=96)	I am sure that I can deal with the stresses of adjusting to a culture that is new to me	1 (1)	1 (1)	14 (15)	10 (10)	34 (36)	26 (27)	10 (10)
14	Beh-CQ (n=96)4	I enjoy living in cultures that are unfamiliar to me	2 (2)	1 (1)	13 (14)	27 (28)	29 (30)	18 (19)	6 (6)
15	Beh-CQ5 (n=96)	I am confident that I can adapt to the shopping conditions in a different culture	1 (1)	1 (1)	6 (6)	9 (9)	48 (50)	26 (28)	5 (5)
16	Mot-CQ1 (n=96)	I change my verbal behaviour (e.g. accent tone) when cross-cultural interaction requires it	1 (1)	2 (2)	6 (6)	15 (16)	42 (44)	21 (2)	9 (9)
17	Mot-CQ2 (n=96)	I use pauses and silences in my speech to suit different cross-cultural situations	1 (1)	3 (3)	10 (10)	17 (18)	38 (40)	18 (19)	9 (9)
18	Mot-CQ3 (n=95)	I vary the speed of my speech when a cross-cultural situation requires it	1 (1)	1 (1)	5 (5)	10 (11)	52 (55)	17 (18)	9 (9)
19	Mot-CQ4 (n=96)	I change my non-verbal behaviour when a cross-cultural situation requires it	1 (1)	1 (1)	10 (10)	13 (14)	48 (50)	17 (18)	6 (6)
20	Mot-CQ5 (n=96)	I alter my facial expressions when cross-cultural interaction requires it	1 (1)	2 (2)	13 (14)	17 (18)	46 (48)	13 (13)	4 (4)

MC: metacognitive, Cog: cognitive, Beh: behavioural, and Mot: motivational
VSD: very strongly disagree, S: strongly disagree, D: disagree, ND: not decided, A: agree, SA: strongly agree, VSA: very strongly agree,

Table 32. Results of the second part of the cultural diversity questionnaire

#	Q	Question text	N	1 (VSD)	2 (SD)	3 (D)	4 (ND)	5 (A)	6 (SA)	7 (VSA)
1	43	my social group is mainly from the same culture as me	96	5 (5.2)	6 (6.3)	14 (14.6)	2 (2.1)	26 (27.1)	24 (25)	19 (19.8)
2	44	I grew up in a very multicultural area	96	5 (5.2)	10 (10.4)	19 (19.8)	2 (2.1)	29 (30.2)	19 (19.8)	12 (12.5)
3	45	At school, I mainly spent time with people from my own culture	96	4 (4.2)	6 (6.3)	16 (16.7)	6 (6.3)	30 (31.3)	18 (18.8)	16 (16.7)
4	46	I sometimes struggle to communicate with people who do not speak good English	96	7 (7.3)	7 (7.3)	35 (36.5)	7 (7.3)	34 (35.4)	4 (4.2)	2 (2.1)

#	Q	Question text	N	1 (VSD)	2 (SD)	3 (D)	4 (ND)	5 (A)	6 (SA)	7 (VSA)
5	47	My school was ethnically diverse	96	7 (7.3)	10 (10.4)	22 (22.9)	5 (5.2)	22 (22.9)	14 (14.6)	16 (16.7)
6	48	I grew up in a large city	96	10 (10.4)	10 (10.4)	21 (21.9)	8 (8.3)	23 (24)	11 (11.5)	13 (13.5)
7	49	I do not believe that my cultural or ethnic group is better than any other	95	2 (2.1)	1 (1.1)	2 (2.1)	7 (7.4)	19 (20)	22 (23.2)	42 (44.2)
8	50	In general, I prefer doing things with people from my own culture rather than with people from different cultures	96	9 (9.4)	10 (10.4)	22 (22.9)	23 (24)	20 (20.8)	10 (10.4)	2 (2.1)
9	51	I avoid socialising with students who speak a different language to me	96	17 (17.7)	19 (19.8)	53 (36.5)	11 (11.5)	11 (11.5)	3 (3.1)	0
10	52	My experience of people from different cultural backgrounds are positive	96	0	0	3 (3.1)	7 (7.3)	33 (34.4)	30 (31.3)	23 (24)
11	53	I do not feel confident enough to participate in class discussion because of my language skills	96	18 (18.8)	22 (22.9)	23 (24)	7 (7.3)	15 (15.6)	5 ((5.2)	6 (6.3)
12	54	I would like to have more activities to engage with students from different cultures	96	1 (1)	0	5 (5.2)	16 (16.7)	37 (38.5)	21 (21.9)	16 (16.7)
13	55	Adjustment to university life was difficult to me	96	7 (7.3)	15 (15.6)	30 (31.3)	10 (10.4)	21 (21.9)	10 (10.4)	3 (3.1)
14	56	The course provided me with confidence to practise as a pharmacist outside the UK	96	4 (4.2)	12 (12.5)	24 (25)	17 (17.7)	20 (20.8)	12 (12.5)	7 (7.3)
15	57	The curricula provided me with knowledge about medications effectiveness across different ethnic groups	96	0	11 (11.5)	9 (9.4)	19 (19.8)	42 (43.8)	10 (10.4)	5 (5.2)
16	58	I have received enough education about variation in health outcomes based on ethnic group	96	2 (2.1)	9 (9.4)	20 (20.8)	29 (30.2)	30 (31.3)	4 (4.2)	2 (2.1)

For abbreviations refer to the previous table (Table 31)

Appendix 11. Case scenarios for educational intervention

Case scenario 1: Not sharing the professional knowledge

Mariam is 65 year old Muslim lady with DM for 20 years. She had amputation of her right toe 2 months ago. The patient is diagnosed with diabetic foot ulcer with moderate infection.

Prescription:

Metformin 500 mg TDS

Metronidazole 400 mg every 8 hrs

Doxycycline 100mg every 12 hours

Cultural need: Not drinking alcohol- need to ask the question in culturally appropriate manner.

Sharing the knowledge and explaining the quality of evidence and its probability.

If asked: You are 65 wearing headscarf and you get offended when a young pharmacist ask you if you drink alcohol in inappropriate manner.

Case scenario 2: Not checking the patient understanding or need

Angela is 25 years old lady came to your pharmacy to ask for oral contraceptive

The patient is doing morally wrong decision based on her husband view.

Cultural need: moral action, communicating a sensitive information for patient, understanding family involvement of the decision making process.

Case scenario 3: Not providing alternative or professional reasons

Arjun is a vegan male who was prescribed Amoxicillin capsule 500 mg every 8 hours.

Prescription:

Amoxicillin 500 mg every 8 hours

Cultural needs: dietary requirement, check the PIL. If the information is not provided, call the drug company, keep the patient informed about the waiting time to make the call. Deliver the information to the patient and recommend alternative medicine.

Appendix 12. Invitation email to recruit participants for the educational intervention

On behalf of Norah Alosaimi, my PhD student with Helen Boardman. If you are able to attend, you should find this a valuable learning experience.

Dear Students,

My name is Norah, I am a PhD student supervised by Dr Matthew Boyd and Dr Helen Boardman. I am studying educational interventions to support undergraduates to be culturally competent. As part of this I am offering a teaching session on dealing with patients in a culturally competent manner on two separate days:

1) 3rd April from 14:00 to 16:00,
   OR
2) 10th April from 14:00 to 16:00

By the end of the session a participant will be able to:

1- Critically discuss how beliefs and assumptions affect how people interact.
2- Recognise cultural needs in patient-encounters
3- Demonstrate an appreciation of how the effective communication impact upon achieving patient-centred care.

Before and after the session as part of the research, we will ask you to fill a questionnaire and discuss your feeling about the teaching session.

The session will last for no more than 2 hours.

The session will include hands-on activities that sensitise and develop the interculturally competent pharmacist.

If you would be interested in participating, please sign up for the session using the link below.

https://doodle.com/poll/eysyqmc3th5mty8c

Research participant privacy notice

Why we collect your personal data

We collect personal data under the terms of the University's Royal Charter in our capacity as a teaching and research body to advance education and learning. Specific purposes for data collection on this occasion are evaluation of the teaching session and its correspondence with some demographics.

How long we keep your data

The University may store your data for up to 25 years and for a period of no less than 7 years after the research project finishes. The researchers who gathered or processed the data may also store the data indefinitely and reuse it in future research. Measures to safeguard your stored data include anonymisation of data.

Thank you.

Norah

Appendix 13. Cultural intelligence scale (CQS)

Read each statement and select the response that best describes your capabilities. Select the Answer that BEST describes you AS YOU REALLY ARE.

Use the following format:

1	2	3	4	5	6	7
Very Strongly Disagree	**Strongly Disagree**	**Disagree**	**Not Decided**	**Agree**	**Strongly Agree**	**Very Strongly Agree**

1. I am conscious of the cultural knowledge I use when interacting with people with different cultural backgrounds.	1 2 3 4 5 6 7
2. I adjust my cultural knowledge as I interact with people from a culture that is unfamiliar to me.	1 2 3 4 5 6 7
3. I am conscious of the cultural knowledge I apply to cross-cultural interactions	1 2 3 4 5 6 7
4. I check the accuracy of my cultural knowledge as I interact with people from different cultures.	1 2 3 4 5 6 7
5. I know the legal and economic systems of other cultures.	1 2 3 4 5 6 7
6. I know the rules (e.g. vocabulary, grammar) of other languages.	1 2 3 4 5 6 7
7. I know the cultural values and religious beliefs of other cultures.	1 2 3 4 5 6 7
8. I know the marriage systems of other cultures.	1 2 3 4 5 6 7
9. I know the arts and crafts of other cultures.	1 2 3 4 5 6 7
10. I know the rules of expressing non-verbal behaviours in other cultures.	1 2 3 4 5 6 7
11. I enjoy interacting with people from different cultures.	1 2 3 4 5 6 7
12. I am confident that I can socialise with locals in a culture that is unfamiliar to me.	1 2 3 4 5 6 7
13. I am sure that I can deal with the stresses of adjusting to a culture that is new to me	1 2 3 4 5 6 7
14. I enjoy living in cultures that are unfamiliar to me.	1 2 3 4 5 6 7
15. I am confident that I can adapt to the shopping conditions in a different culture.	1 2 3 4 5 6 7
16. I change my verbal behaviour (e.g. accent tone) when cross-cultural interaction requires it.	1 2 3 4 5 6 7

17. I use pauses and silences in my speech to suit different cross-cultural situations.	1	2	3	4	5	6	7
18. I vary the speed of my speech when a cross-cultural situation requires it.	1	2	3	4	5	6	7
19. I change my non-verbal behaviour when a cross-cultural situation requires it.	1	2	3	4	5	6	7
20. I alter my facial expressions when a cross-cultural interaction requires it.	1	2	3	4	5	6	7

Appendix 14. Feedback questionnaire

1. Overall, I feel the workshop stimulated me to think effectively about cultural differences

□ Strongly agree □ Agree □ Neutral □ Disagree □ Strongly disagree

2. I think the first activity was engaging

□ Strongly agree □ Agree □ Neutral □ Disagree □ Strongly disagree

3. I felt comfortable in asking questions about other cultures

□ Strongly agree □ Agree □ Neutral □ Disagree □ Strongly disagree

4. The discussion of case scenarios is useful

□ Strongly agree □ Agree □ Neutral □ Disagree □ Strongly disagree

5. I am able to think about the situations from patients' perspective

□ Strongly agree □ Agree □ Neutral □ Disagree □ Strongly disagree

6. I feel confident in communicating with patients who have cultural differences

□ Strongly agree □ Agree □ Neutral □ Disagree □ Strongly disagree

7. What did you like the MOST?

8. What did you like the LEAST?

9. How can this workshop be improved?

10. What is your gender?

□ Male □ Female □ Prefer not to say

What is your ethnicity?

□ White □ Chinese □ Asian □ African
□ Arab □ Others, specify
…….

11. What is your home country?

12. What is your religion?

□ No religion
□ Christian
□ Jewish
□ Muslim
□ Buddhist
□ Hindu
□ Sikh
□ Other …….