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REVIEW ARTICLE

Inter-Cultural Communication Skills Training in Medical Schools: A Systematic Review

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ABSTRACT

Background Effective intercultural communication skills are an essential graduate outcome for medical students in a globalised world. Educational theory would suggest that combining an understanding of cultural competence with patient centred communication skills through an experiential, immersive, reflective and longitudinal curriculum may be the most effective way to develop intercultural communication skills.

Aims To determine the scope and most effective teaching methods in training medical students in intercultural communication with ethnically diverse populations.

Method A systematic review of the literature was performed using the PRISMA Guidelines to identify articles that described methods for teaching intercultural communication to medical students. A search of the literature was performed in five databases: Cochrane, EMBASE, ERIC, PubMed and Web of Science. Relevant papers were interrogated for impact (Kirkpatrick level), quality (Colthart scale) and learning mechanism.

Results We found 22 studies that described teaching methods for developing intercultural communication for ethnically diverse people in medical schools. There were a diverse range of teaching methods, durations and time of delivery in the medical course. Better teaching interventions were underpinned by learning theory and usually included practice with standardised patients, reflection and immersive experiences with members of ethnically diverse communities. Evaluation of these studies was limited mostly to short term student satisfaction surveys or performance assessments which hampered determining their effectiveness.

Conclusion While there are indications that intercultural communication is best learnt as a continuum of cultural and communication skill development through immersive experiences, iteratively through medical school, there remains a need for high quality longitudinal studies to confirm this hypothesis.

Keywords: Communication skills; consultation skills; cultural competence; cultural competence workshops; medical students; undergraduate medicine; undergraduate medical curriculum; educational intervention; diverse cultures; cross-cultural; inter-cultural; diversity; CALD

Practice Points

- Developing attitudes, knowledge and skills in cultural competence together with patient centered communication training are the foundations to effective intercultural communication skills
- Teaching pedagogies that are multimodal, experiential, reflective, and that are patient and community member led, yield the best participant satisfaction
- Patients or bicultural workers adopting the role of a teacher or as someone who can tell the learner what an illness means in daily life, help promote a patient-centred approach in students.
- A more sustainable development of intercultural communication skills appears to occur when essential elements are taught repeatedly and iteratively through a spiral type curriculum
- When researching the effectiveness of educational programs around diversity, consideration should be given to planning longitudinal studies that assess the impact on patient care and health outcomes of patients

1. Introduction

Effective inter-cultural communication (ICC) is a core skill for medical students as they prepare to work with diverse cultures. While the term 'diverse cultures' can apply to disability, gender, sexuality, ethnicity, rurality, and intersectoral location[1] in this systematic review we have focused on ethnicity. This is despite a recent call to avoid references to static elements in patients such as nationality, ethnicity, or religion and instead describe culture as a more dynamic and continuously changing practice[2]. While holding up ethnicity as an example of cultural diversity it is possible to avoid problematic stereotyping and 'othering' if culture is not conceptualised in a simplified fashion[3] and is integrated through the medical curriculum.[4]

In Australia, there is increasing cultural diversity through multiple waves of refugees and other migrants. As a result, the 2016 Census, found that more than one-fifth of the population spoke a language other than English at home and nearly half the population were either first- or second-generation Australians.[5] Doctors and patients from different ethnic backgrounds can have communication misunderstandings which lead to poorer health outcomes.[6] While the need for effective ICC is well established the best methods for acquiring those skills in medical schools remain unclear.[7]

Inter-cultural communication skills are underpinned by two fundamental attributes: the acquisition of patient centred communication skills and the development of cultural competency.[8] It is unclear whether they should be learnt simultaneously although some authors feel that cultural competency should be learnt first.[9]

Cultural competency is a key part of most learning outcomes in medical schools across the globe and this is directed by their regulatory bodies such as the General Medical Council[10], Association of American Medical Colleges[11], Australian Medical Council[12] and CanMEDS.[13] Recently the CanMEDs framework has been used by a coalition of medical agencies in Australia to develop competency standards for clinicians: "Culturally Responsive Clinical Practice: working with people from migrant and refugee backgrounds" [14] However, there is little guidance on how these learning outcomes translate into training medical students. For example, while most medical schools in the USA, UK and Canada deliver some cultural competency training, it is taught in isolation, rarely integrated across the course, and poorly evaluated or assessed.[15,16] The key challenges to effective education of cultural competency were lack of resources, shortage of experienced staff, lack of conceptual clarity and ambivalence from both faculty and students.

Unsurprisingly, graduating medical students often feel inadequately prepared, or skilled, in many important aspects of cross-cultural care[17,18]. In contrast, one rural Australian medical school found relatively high levels of confidence on self-reported intercultural competence scales[19] but this varies across countries and between genders.[20]

There are many frameworks and models describing the key elements in cultural competency education [4,9,21, 22, 23]. Common elements include awareness of world view, knowledge of other cultures, adaptability, appreciation of language differences, and awareness of personal biases. Integrated models taught across a curriculum, and where learning objectives are assessed and programs are evaluated, appear to be likely to give the best outcomes.[9] Developing a theoretical model or road map may also be useful, especially to see how cross-cultural communication skills fits into wider cultural competency teaching. An example of such a model, at our local institution, was derived from research by Papadopoulos [24] and Deardorff [25] (Figure 1).

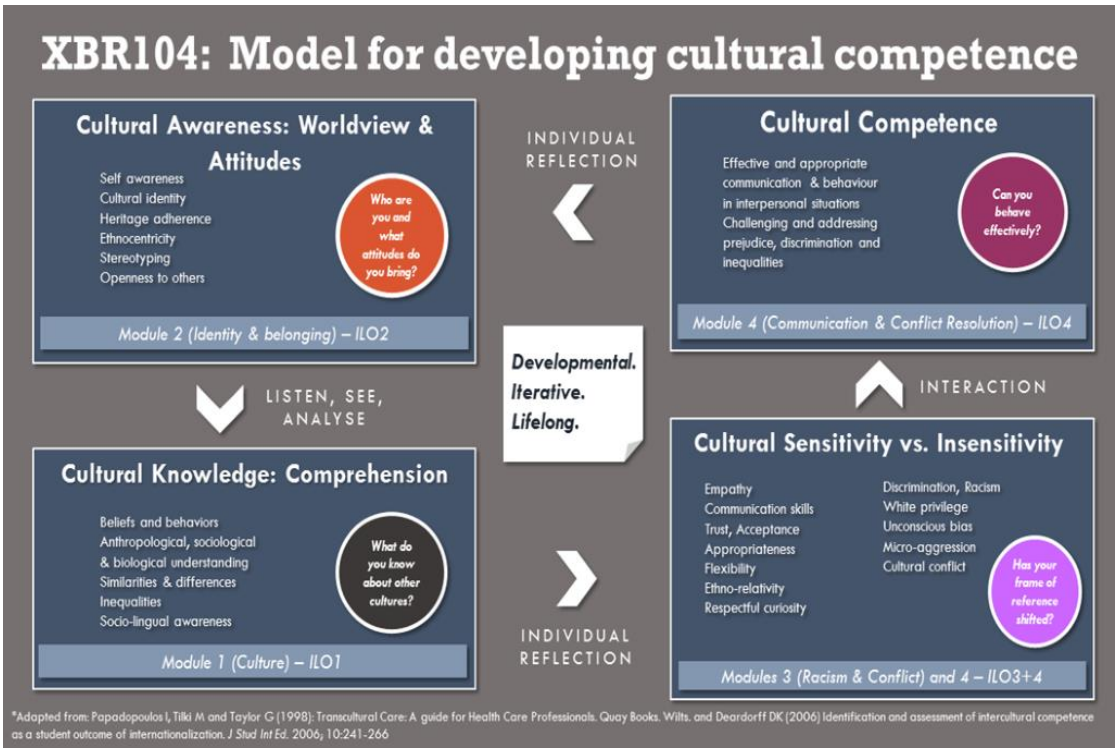


Fig 1. Model for developing cultural competence (University of Tasmania)

Application of cultural competence to the medical setting is nuanced. It is simplistic to conceptualise 'culture in the consulting room' as just the ethnically different patient. In every physician-patient contact, there are three cultures interacting with each other: the patient's, the physician's and the medical culture itself. [26] This is reflected in the definition of cultural competence in the medical education setting as: "a set of academic and interpersonal skills that allow individuals to increase their understanding and appreciation of cultural differences and similarities within, among and between groups" [27]. The major behavioural skill of cultural competence, namely inter-cultural communication, is the key medium that harmonises and links all three cultures in a clinical consultation. Some successful cultural competence training programs have emphasised the importance of acknowledging any differences amongst the patient, physician and medical culture, as well as the skill of negotiating and collaborating amongst these three cultures [21]. It also appears that educational methods that include a thorough sociocultural interview with simulated patients help remind students about the three cultures present in the medical encounter.[9]

There is evidence that effective ICC training is often an extension of patient-centred communication- where the patient perspective, including their illness values and beliefs, is respected by the doctor [28, 29, 30]. Learning well developed communication skills, built on patient centredness, are a well-established element of a medical school curriculum [12] and have been shown to improve patient treatment outcomes [31]. Teaching patient centred communication has been refined over recent years [32] and some programs have identified educational or psychological theories that inform how patient centredness is best learned [8].

A variety of teaching techniques have been listed in national stock takes of ICC teaching in medical schools including lectures, PBL cases, small group discussions, immersion in cultural community centre e.g. aboriginal health centre and simulated patients with diverse cultural backgrounds [15]. However, the most effective educational methods to teach cross-cultural communication skills remain ambiguous.

From the medical education literature, we hypothesise that an effective ICC teaching program may include the following 6 elements:

- **Patient centeredness.** Adequate grounding in patient centred communication skills based on sound learning theories[8]
- **Cultural competency.** Preparation in the core components of cultural competency i.e. personal bias, worldview, cultural awareness, cultural knowledge and causes of cultural conflict - prior to communication skills training[9]

- **Immersion.** An interactive and culturally immersive delivery method that may include bicultural health workers, medical educators, simulated patients and/or guest speakers from diverse cultures with opportunities for practice, constructive feedback and evaluation[33]
- **Patient feedback.** Programs that help both the patient and the doctor understand each other by training both the student, and the real or simulated patient, to enhance quality feedback from the patient perspective [8,34]
- **Repetition.** The timing of the training and repeated experience/ practice over the full duration of the medical course would iteratively embed the skill – the so called 'spiral curriculum'- and be nested in a broader diversity curriculum[4]
- **Reflection.** The encouragement of reflection on the quality of communication between student and patient[35]

The aim of this systematic review was to determine from published studies:

a) The scope of teaching methods, and their elements, in training medical students in ICC
b) What is the most effective teaching method(s) and why?

2. Method

This systematic review of the literature was performed using the PRISMA Guidelines to identify articles that described methods for teaching inter-cultural communication in medical students.

2.1 Search Strategy

An initial search for literature was performed in five databases: Cochrane, EMBASE, ERIC, PubMed and Web of Science. There were three main domains that the search focussed on: communication skills, medical students and diverse cultures. Accordingly, the following keywords, and their synonyms were used to define the search:

- Communication skills: consultation skills, history taking, cultural competence, cultural sensibility, cultural awareness workshops, illness experience, multicultural curriculum
- Medical students: undergraduate medicine, medical curriculum, medical program, educational intervention, doctors, medical encounter, medical education, undergraduate training, undergraduate medical education
- Diverse cultures: cross-cultural, intercultural, multicultural, diversity, ethnic minority, culturally and linguistically diverse

In addition, the following MeSH terms (PubMed) further defined the search:

- communication skills: (history taking, medical), cultural competence, (competency, cultural), narrative medicine
- medical students: (medical education, undergraduate), undergraduate medical education, (education, undergraduate medical), medical students, medical student, (student, medical), (education, medical, undergraduate)
- diverse cultures: cultural diversities, (diversity, cultural), (diversities, cultural)

The search strategy syntax for each database in shown in Table 1.

Table 1. Search strategy syntax for different databases

Table 1 a

Database	Search strategy syntax
Cochrane	ID Search #1 communication skills OR consultation skills OR history taking OR cultural competence OR cultural sensibility OR cultural awareness workshops OR illness experience OR multicultural curriculum #2 medical students OR undergraduate medicine OR medical curriculum OR medical program OR educational intervention OR doctors OR medical encounter OR medical education OR undergraduate training OR undergraduate medical education #3 diverse cultures OR cross-cultural OR intercultural OR multicultural OR diversity OR ethnic minority OR culturally and linguistically diverse #4 #1 AND #2 AND #3

Table 1 b

Database	Search strategy syntax
EMBASE	1. communication skills.ab,ti 2. consultation skills.ab,ti 3. history taking.ab,ti 4. cultural competence.ab,ti 5. cultural sensibility.ab,ti 6. cultural awareness workshops.ab,ti 7. illness experience.ab,ti 8. multicultural curriculum.ab,ti 9. 1 or 2 or 3 or 4 or 5 or 6 or 7 or 8 10. medical students.ab,ti 11. undergraduate medicine.ab,ti 12. medical curriculum.ab,ti 13. medical program.ab,ti 14. educational intervention.ab,ti 15. doctors.ab,ti 16. medical encounter.ab,ti 17. medical education.ab,ti 18. undergraduate training.ab,ti 19. undergraduate medical education 20. 10 or 11 or 12 or 13 or 14 or 15 or 16 or 17 or 18 or 19 21. diverse cultures.ab,ti 22. cross-cultural.ab,ti 23. intercultural.ab,ti 24. multicultural.ab,ti 25. diversity.ab,ti 26. ethnic minority.ab,ti 27. (culturally and linguistically diverse).ab,ti 28. 21 or 22 or 23 or 24 or 25 or 26 or 27 29. 9 and 20 and 28

Table 1 c

Database	Search strategy syntax	
ERIC	#	Query
	S10	(S3 AND S6 AND S9)
	S9	S7 OR S8
	S8	TI (culturally and linguistically diverse) OR AB (culturally and linguistically diverse)
	S7	TI diverse cultures OR AB diverse cultures OR TI cross-cultural OR AB cross-cultural OR TI intercultural OR AB intercultural OR TI multicultural OR AB multicultural OR TI diversity OR AB diversity OR TI ethnic minority OR AB ethnic minority
	S6	S4 OR S5
	S5	TI medical encounter OR AB medical encounter OR TI medical education OR AB medical education OR TI undergraduate training OR AB undergraduate training OR TI

	S4	undergraduate medical education OR AB undergraduate medical education TI medical students OR AB medical students OR TI undergraduate medicine OR AB undergraduate medicine OR TI medical curriculum OR AB medical curriculum OR TI medical program OR AB medical program OR TI educational intervention OR AB educational intervention OR TI doctors OR AB doctors
	S3	S1 OR S2
	S2	TI illness experience OR AB illness experience OR TI multicultural curriculum OR AB multicultural curriculum
	S1	TI communication skills OR AB communication skills OR TI consultation skills OR AB consultation skills OR TI history taking OR AB history taking OR TI cultural competence OR AB cultural competence OR TI cultural sensibility OR AB cultural sensibility OR TI cultural awareness workshops OR AB cultural awareness workshops

Table 1 d

Database	**Search strategy syntax**
PubMed	(((((communication skills OR consultation skills OR history taking OR cultural competence OR cultural sensibility OR cultural awareness workshops OR illness experience OR multicultural curriculum)) AND (medical students OR undergraduate medicine OR medical curriculum OR medical program OR educational intervention OR doctors OR medical encounter OR medical education OR undergraduate training OR undergraduate medical education)) AND (diverse cultures OR cross-cultural OR intercultural OR multicultural OR diversity OR ethnic minority OR culturally and linguistically diverse))) AND ((((history taking, medical OR cultural competence OR competency, cultural OR narrative medicine [MeSH Terms])) AND (medical education, undergraduate OR undergraduate medical education OR education, undergraduate medical OR medical students OR medical student OR student, medical OR education, medical, undergraduate[MeSH Terms])) AND (cultural diversities OR diversity, cultural OR diversities, cultural[MeSH Terms]))

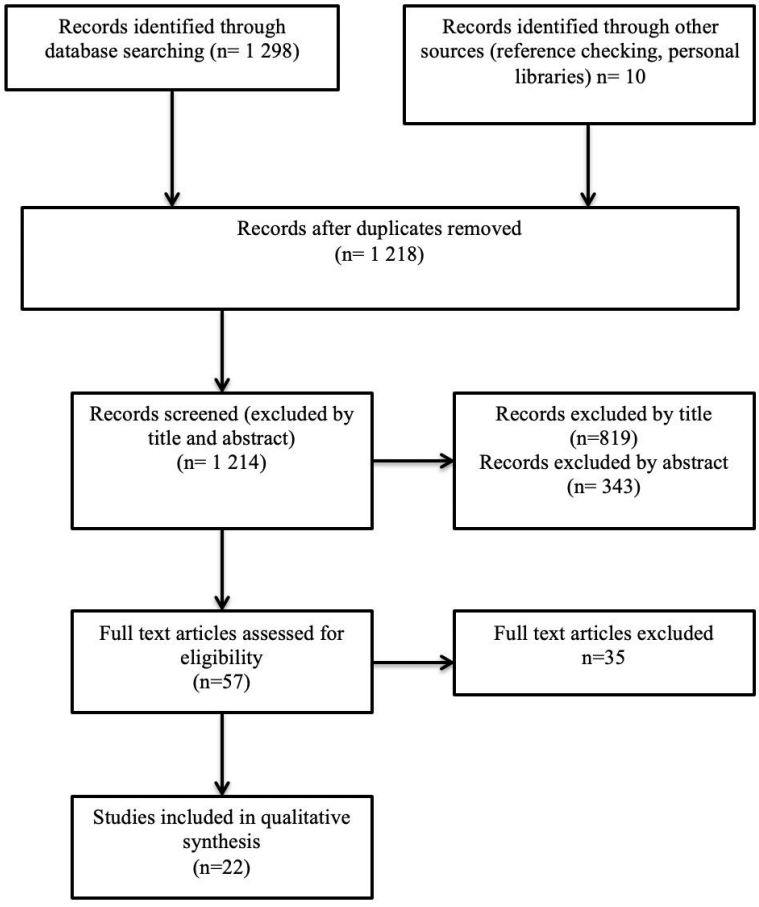
Table 1 e

Database	Search strategy syntax
Web of Science	Set / Results / Save History / Create Alert / Open Saved History #4 10 #3 AND #2 AND #1 *Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, ESCI, CCR-EXPANDED, IC Timespan=1960-2019* #3 156,566 (TI = (diverse cultures OR cross-cultural OR intercultural OR multicultural OR diversity OR ethnic minority OR culturally and linguistically diverse)) **LANGUAGE:** (English) *Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, ESCI, CCR-EXPANDED, IC Timespan=1960-2019* #2 82,077 (TI = (medical students OR undergraduate medicine OR medical curriculum OR medical program OR educational intervention OR doctors OR medi encounter OR medical education OR undergraduate training OR undergraduate medical education)) *AND* **LANGUAGE:** (English) *Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, ESCI, CCR-EXPANDED, IC Timespan=1960-2019* #1 7,753 (TI = (communication skills OR consultation skills OR history taking OR cultural competence OR cultural sensibility OR cultural awareness worksho illness experience OR multicultural curriculum)) *AND* **LANGUAGE:** (English) *Indexes=SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, ESCI, CCR-EXPANDED, IC Timespan=1960-2019*

2.2 Eligibility criteria and study selection

The search for articles were limited to those published after 1960 and in English only. After running the search of the 5 databases, using the syntax described, duplicates were removed. Then the records were assessed by consensus of both authors according to their relevance to our hypothesis: that there are multiple elements that lead to effective cross-cultural communication teaching in medical students. Pragmatically, any article that described a method of teaching medical students about cross-cultural communication was included. Articles were initially screened by consensus by both authors examining the title and abstract. Finally, full text versions of the remaining articles were sourced and screened for relevance. Relevant articles not sourced from the listed databases, but existing in the collections of the authors, were also included. Diagram 1 summarises this eligibility and selection process.

Diagram 1. Process of article screening



2.3 Data extraction

The following data, based on the 6 hypothesised critical elements, were then extracted from all studies: participants, site, delivery method, activity duration, evaluation, and if any patient or community involvement occurred.

2.4 Data analysis and synthesis

The evaluation method used in the article was then categorised according to: student performance assessment (formative or summative), satisfaction survey or 'other'.

The selected studies of cross-cultural communication skills training in medical schools were also subjected to Kirkpatrick's program evaluation model[36] and assigned a level (1-4) as modified by Steinert et al[37] to determine the impact of the teaching intervention. The brief description of each Kirkpatrick level is as follows: 1. Reaction = Satisfaction, 2. Learning = Change in attitudes, knowledge or skills, 3. Behavior = Change in behaviors, 4. Results = Change in the system/organizational practice or participants' students, residents, or colleagues.

We also applied a quality rating of the papers according to the: "Gradings of Strengths in Findings of the Paper" criteria used by Colthard [38] : Grade 1: No clear conclusions can be drawn -not significant, Grade 2: Results ambiguous, but there appears to be a trend, Grade 3: conclusions can probably be based on the results and Grade 4: Results are clear and very likely to be true, Grade 5: results are unequivocal.

Finally, we interpreted the educational or psychological theory that was used in each article, to underpin the teaching intervention using the classification of de Groot et al.[8] They identified four clusters of mechanisms how patient centredness is best learned: 1. Comparing & combining as well as broadening perspectives; 2. Developing narratives and engagement with patients, 3. Self-actualisation and 4. Socialisation

3. Results

There were 22 articles that analysed the implementation of cross-cultural communication programmes in undergraduate medical training detailed in Table. 2

Table 2a. Studies of intercultural communication skills training in medical schools Part a

#	Title (Author, Year) [Country]	Delivery method (Duration/stage of delivery)	Evaluation	Community (C) /Patient (P) Involvement/ None (N)	Key Findings and Impact Evaluation	Kirkpatrick's Level[36]	Strength of Findings (Colthart[38])	Mechanism(s) of Learning [8] (highlighted in brown)
1	Teaching intercultural awareness to first-year medical students via experiential exercises[39] (Aronson, et al., 2005) [USA]	Peer learning Team building exercises Problem solving Diverse small groups (One-day retreat/first year)	Pre/post intervention questionnaire MCI and CCAQ	N	Majority of cultural awareness indices decreased Increased willingness to work in diverse groups	2	2	Comparing and combining, as well as broadening, perspectives Developing narratives and engaging with patients Self-actualisation Socialisation (organisational) Not described
2	Cultural competency training for third-year clerkship students: effects of an interactive workshop on student attitudes[40] (Carter, et al., 2006) [USA]	Workshop "Cultural Proficiency Workshop" - interactive, experiential (3-hour workshop/third year)	Pre/post workshop cultural attitudes and belief's scale Pre/post knowledge test Student satisfaction survey	P	Workshop helped increase cultural awareness "Cultural Attitude and Beliefs Scale" – students were more aware of their prejudices and importance of being cultural awareness but were less confident in being able to bring their competence into practise	2	2	Comparing and combining, as well as broadening, perspectives Developing narratives and engaging with patients Self-actualisation Socialisation (organisational) Not described
3	The first sunrise: an experience of cultural immersion and community health needs assessment by undergraduate medical students in New Zealand[33] (Dowell, et al., 2001) [New Zealand]	Cultural immersion program – visit one of 6 small communities (1 week/second or third years)	Student evaluation questionnaire	C, P	Cultural immersion programme helped students become more culturally aware and identify community health needs in a rural setting	2	3	Comparing and combining, as well as broadening, perspectives Developing narratives and engaging with patients Self-actualisation Socialisation (organisational) Not described
4	Working with interpreters: how student behaviour affects quality of patient interaction when using interpreters[41] (Fung, et al., 2010) [USA]	Workshop (3 hours/second year)	Summative OSCE 8 weeks post-workshop	P	39.4% of participants failed OSCE Interpreter position impacts on cross-cultural consultation skills	2	3	Comparing and combining, as well as broadening, perspectives Developing narratives and engaging with patients Self-actualisation Socialisation (organisational) Not described

Table 2b. Studies of intercultural communication skills training in medical schools Part b

#	Title (Author, Year) [Country]	Delivery method (Duration/stage of delivery)	Evaluation	Community (C) /Patient (P) Involvement/ None (N)	Key Findings and Impact Evaluation	Kirkpatrick's Level[36]	Strength of Findings (Colthart[38])	Mechanism(s) of Learning (highlighted in brown)
5	Interventions for improving medical students' interpersonal communication in medical consultations [42] (Gilligan, et al., 2016) [Australia, UK]	Review of current interventions that improve medical students' intercultural communication skills (Dyadic/triadic scenarios with simulated patients/carers)	Formative and summative OSCEs Learning objectives Feedback from observers	P	No data published	-	1	Comparing and combining, as well as broadening, perspectives Developing narratives and engaging with patients Self-actualisation Socialisation (organisational) Not described
6	Designing and implementing a cultural competence OSCE: lessons learned from interviews with medical students[17] (Green, et al., 2007) [USA]	'Cultural competence OSCE' Used standardised patient Video (Second year)	Formative OSCE Semi-structured interview on advantages/disadvantages of a cross-cultural OSCE station	P	OSCE is a powerful teaching tool for cultural competence education Such OSCE stations should not have numerous cultural issues to address Standardised patients need to have pre-OSCE appropriate training Faculty members responsible for marking/developing the OSCE station should also have appropriate training	2	2	Comparing and combining, as well as broadening, perspectives Developing narratives and engaging with patients Self-actualisation Socialisation (organisational) Not described
7	Self-assessment of intercultural communication skills: a survey of physicians and medical students in Geneva, Switzerland [43] (Hudelson, et al., 2011) [Switzerland]	No intervention	Self- assessment questionnaire comparing clinical skills to communication skills	N	Clinical skills were rated more highly in comparison to intercultural communication skills Physicians/medical students should have formal face to face training with cross cultural populations as part of their cultural competence training	1	1	Comparing and combining, as well as broadening, perspectives Developing narratives and engaging with patients Self-actualisation Socialisation (organisational) Not described

Table 2c. Studies of intercultural communication skills training in medical schools Part c

#	**Title (Author, Year)** [Country]	**Delivery method (Duration/stage of delivery)**	**Evaluation**	**Community (C) /Patient (P) Involvement/ None (N)**	**Key Findings and Impact Evaluation**	**Kirkpatrick's Level[36]**	**Strength of Findings (Colthart[38])**	**Mechanism(s) of Learning** (highlighted in brown)
8	Faculty analysis of distributed medical education in Northern Canadian Aboriginal communities[44] (Hudson, et al., 2014) [Canada]	Online discussion Weekly videoconference Online lectures (4-week community placement/first year)	Descriptive study Student feedback	C, P	Cultural immersion is a key factor to develop cultural competence	1	2	Comparing and combining, as well as broadening, perspectives Developing narratives and engaging with patients Self-actualisation Socialisation (organisational) Not described
9	Actors' personal stories in case-based multicultural medical education [45] (Kumagai, et al., 2010) [USA]	Simulated patients of similar background to case studies Muslim story via video or live	Survey	P	Majority of students agreed that watching videos and stimulated patients helped increase cultural awareness	1	2	Comparing and combining, as well as broadening, perspectives Developing narratives and engaging with patients Self-actualisation Socialisation (organisational) Not described
10	Using standardised patients to teach cross-cultural communication skills [46] (Kutob, et al., 2012) [USA]	Workshop including role plays, Kleinman's Patient Explanatory model (4 hours/pre-clinical years)	Cultural Competence Assessment Tool pre/post workshop	P	Brief workshop helped students understand cross-cultural patient dynamics Active participation in cross cultural training is better than knowledge-based education	2	1	Comparing and combining, as well as broadening, perspectives Developing narratives and engaging with patients Self-actualisation Socialisation (organisational) Not described
11	Teaching Cross-Cultural Communication Skills Online: A Multi-Method Evaluation [47] (Lee, et al., 2015)	Online module Specific training (PACT: problem-affect-concern-treatment)	Formative OSCE Summative written reflections Post-intervention surveys	P	Students who completed the online module and received specific training scored better in OSCEs and written assessments	2	2	Comparing and combining, as well as broadening, perspectives Developing narratives and engaging with patients Self-actualisation Socialisation (organisational) Not described

Table 2d. Studies of intercultural communication skills training in medical schools Part d

#	Title (Author, Year) [Country]	Delivery method (Duration/stage of delivery)	Evaluation	Community (C) /Patient (P) Involvement/ None (N)	Key Findings and Impact Evaluation	Kirkpatrick's Level[36]	Strength of Findings (Colthart[38])	Mechanism(s) of Learning (highlighted in brown)
12	Reflective practice enriches clerkship students' cross-cultural experience [48] (Lie, et al., 2010) [USA]	Community placement in Family Medicine OPD in Latino population Visit communities/Home visits Small group discussion (4 weeks/third year)	Pre-placement knowledge test (MCQ) Direct observation Reflective essays Discussion session OSCE	C, P	Thematic analysis: - The physician, patient and medical cultures are all in interplay in the cross-cultural consultation - Factors affecting patient/physician cultures include differences in language and cultural beliefs; addressing these components are essential in positive outcomes	2	2	Comparing and combining, as well as broadening, perspectives Developing narratives and engaging with patients Self-actualisation Socialisation (organisational) Not described
13	Teaching Medical Students How to Use Interpreters: A Three-Year Experience[49] (McEvoy, et al., 2009) [USA]	Case studies Scenario based training Experiential learning Stimulated patients Multi-disciplinary educators: physicians, nurses, community members (16 sessions/third year)	Student survey feedback 7 weeks post-learning session (to ensure students were given a chance to apply content to real life)	P	Lessons and experiences learnt from stimulated patients were helpful and applicable to the clinical setting	3	3	Comparing and combining, as well as broadening, perspectives Developing narratives and engaging with patients Self-actualisation Socialisation (organisational) Not described
14	The Impact of Cross-Cultural Interactions on Medical Students' Preparedness to Care for Diverse Patients[50] (Niu, et al, 2012) [USA]	Encouragement of participating in extracurricular activities: a) Course /workshop in cultural awareness b) Work in underserved health services c) Social contacts with diverse population	Self-rated questionnaire for preparedness to care for diverse patients	C	Interacting with people of diverse cultures increases cultural competence Medical schools should support cross-cultural competency into their training curriculum	1	2	Comparing and combining, as well as broadening, perspectives Developing narratives and engaging with patients Self-actualisation Socialisation (organisational) Not described

Table 2e. Studies of intercultural communication skills training in medical schools Part e

#	Title (Author, Year) [Country]	Delivery method (Duration/stage of delivery)	Evaluation	Community (C) /Patient (P) Involvement/ None (N)	Key Findings and Impact Evaluation	Kirkpatrick's Level[36]	Strength of Findings (Colthart[38])	Mechanism(s) of Learning (highlighted in brown)
15	Improving cross-cultural skills of medical students through medical school-community partnerships[51] (Nora, et al., 1994) [USA]	Language training (Spanish) Small group discussions Didactic teaching International seminar/field trip to Mexico (8-day field trip 20 x 2-hour lectures in Spanish)	Pre/post language training written exam Pre/post teaching and seminar knowledge assessment (MCQ) Misanthropy scale (ethnocentrism)	C, P	Patient encounters and outcomes improved with learning their language Improvement in knowledge of diverse cultures and tolerance towards other cultures	2	3	Comparing and combining, as well as broadening, perspectives Developing narratives and engaging with patients Self-actualisation Socialisation (organisational) Not described
16	Medical students interact with multicultural patients to learn cultural diversity[52] (Roh, et al., 2018) [South Korea]	Workshop including multicultural guest speakers, stories, small discussion , Q & A (4 hours/third year)	Written feedback	C, P	Face to face discussion with foreigners increased cultural awareness Students needed more time with the culturally diverse people Objective measurements of short- and long-term effects are needed	1	2	Comparing and combining, as well as broadening, perspectives Developing narratives and engaging with patients Self-actualisation Socialisation (organisational) Not described
17	Using cultural immersion as the platform for teaching Aboriginal and Torres Strait Islander health in an undergraduate medical curriculum[53] (Smith, et al., 2015) [Australia]	Didactic teaching Cultural immersion programme (1.5-day retreat/first year)	Student questionnaire post-programme Talking circle feedback	C, P	Students responded positively to educators who were of diverse backgrounds themselves Cultural immersion helps: - Students appreciate their own bias as well as knowledge of other cultures - Educators improve their development of cross-cultural curriculum	2	3	Comparing and combining, as well as broadening, perspectives Developing narratives and engaging with patients Self-actualisation Socialisation (organisational) Not described

Table 2f. Studies of intercultural communication skills training in medical schools Part f

#	Title (Author, Year) [Country]	Delivery method (Duration/stage of delivery)	Evaluation	Community (C) /Patient (P) Involvement/ None (N)	Key Findings and Impact Evaluation	Kirkpatrick's Level[36]	Strength of Findings (Colthart[38])	Mechanism(s) of Learning (highlighted in brown)
18	Training a medical workforce to meet the needs of diverse minority communities[54] (Sopoaga, et al., 2017) [New Zealand]	Cultural immersion programme (weekend stay with local Pacific Islander family) Lectures (2 days/4th year)	Pre/post programme questionnaire Summative written reflective essay assessment	C, P	Cultural immersion is a key factor to increasing cultural competence Reflection on those experiences is important for professional growth Cultural immersion resulted in students feeling more open to learning about unfamiliar cultures as they realised they knew less than they initially expected about their indigenous population	2	3	Comparing and combining, as well as broadening, perspectives Developing narratives and engaging with patients Self-actualisation Socialisation (organisational) Not described
19	Preparing medical students to undertake a cultural immersion experience: Introducing frameworks for preparatory and post-immersion activities[55] (Mak, et al., 2011) [Australia]	Lectures Cultural immersion program (placement into indigenous community) (1 week, second year)	Student evaluation questionnaire Discussion after viewing films, indigenous museum tours, various debates such as effect of health policies on Aboriginal health	C, P	No clear results; limitations to study recognised such as small population study, poor student response to questionnaire and short longitudinal course of study	1	1	Comparing and combining, as well as broadening, perspectives Developing narratives and engaging with patients Self-actualisation Socialisation (organisational) Not described
20	A new approach to developing cross-cultural communication skills[56] (Rosen, et al., 2004) [USA]	OSCE - 6 stations Workshop (1.5 days/third year)	Culture and health-belief assessment tool (CHAT) Student satisfaction surveys Pre/post workshop survey	P	Majority of students found the workshop effective; appreciated the complexity of the cases in both its medical and cultural context but identified possibility of developing stereotypes Having a workshop and OSCEs are more effective than didactic teaching No change in skill of communicating with patient's family members or working with interpreters – possible acknowledgement of student weakness and need for continued training in these areas?	2	2	Comparing and combining, as well as broadening, perspectives Developing narratives and engaging with patients Self-actualisation Socialisation (organisational) Not described

Table 2g. Studies of intercultural communication skills training in medical schools Part g

#	**Title (Author, Year)** [Country]	**Delivery method (Duration/stage of delivery)**	**Evaluation**	**Community (C) /Patient (P) Involvement/ None (N)**	**Key Findings and Impact Evaluation**	**Kirkpatrick's Level[36]**	**Strength of Findings (Colthart[38])**	**Mechanism(s) of Learning** (highlighted in brown)
21	Responding to the challenge of teaching cultural competency[57] (Kaul & Guiton, 2010) [USA]	Lecture Video of consultation Discussion in pairs Demo interview technique (2.5 hours/first year)	Pre/post intervention health beliefs attitudes survey	P	Student attitudes improved towards care of and eliciting a patient's perspective Improved understanding of impact of culture on communication issues	2	3	Comparing and combining, as well as broadening, perspectives Developing narratives and engaging with patients Self-actualisation Socialisation (organisational) Not described
22	Cultural competency interventions during medical school: a scoping review and narrative synthesis[58] (Hawthorne, et al., 2009) [United Kingdom]	Interactive e-learning program Video clips of ethnically diverse patients consulting with GPs Reflect on real case Compared large group, small group and self-directed (Delivery methods were applied to fourth, fifth and final years students over a varied time period)	Evaluation questionnaire Focus group discussion	P	Students preferred self-directed delivery (online) Face-to-face teaching was useful for addressing sensitive consultations Delivery of coursework may have been more useful if presented earlier in medical course Study did not have a pre/post questionnaire so unable to comment on effectiveness of intervention	2	2	Comparing and combining, as well broadening, perspectives Developing narratives and engaging with patients Self-actualisation Socialisation (organisational) Not described

There were 11 studies broadly focussed on cultural competency, 6 studies were more targeted towards cross-cultural communication and 3 studies were assessing other areas of cultural competency. Types of articles include mixed method studies, qualitative, quantitative and implementation studies. It is noteworthy that very few papers used quantitative analysis. All methods of analysis were included in this systematic review in order to explore the different ways cross-cultural communication is taught in medical schools globally and determine which practices were effective.

The characteristics of the delivery methods are summarised in Table 3. Many of the studies described multiple delivery methods so percentages add up to over 100%.

Table 3. Characteristics of educational delivery methods

Characteristic	Categorisation	No of studies	% of total
Type of delivery method	Lecture	7	32%
	Discussion	9	41%
	Cultural immersion	6	27%
	Clinical placement	1	5%
	Written reflection	1	5%
	Standardised patient/role play	7	32%
	OSCE	2	9%
	Stories by guest speaker	1	5%
	Reading	2	9%
	Video	3	14%
	Peer learning	1	5%
	Online module or chat	3	14%
	Case studies	2	9%
Length of delivery method	1-3 hrs	3	14%
	Half to full day	3	14%
	1 day to 1 week	5	23%
	More than 7 days but not longitudinal	3	14%
	Longitudinal through year or entire curriculum	2	9%
	Unclear	6	27%
Medical school cohort given delivery method	Year 1	4	18%
	Year 2	4	18%
	Year 3	5	23%
	Senior (clinical)	1	5%
	Over multiple years	1	5%
	Not identified	7	32%
Involvement of others outside Faculty	Patients	19	86
	Community	9	41%
Kirkpatrick level*	1	6	29%
	2	14	67%
	3	1	3%
	4	0	0
	5	0	0

*one study not able to be scored

There were three main forms of evaluation methods of any intervention: formative assessment, summative assessment and student satisfaction surveys documented in Table 4. Other intervention evaluation methods were through de-briefing symposia and interviews.

Table 4. Articles and their evaluation methods

Evaluation method	Article number (#)
Formative assessment	5, 6, 11, 12, 15
Summative assessment	4, 5, 11, 18
Student satisfaction surveys	1, 2, 3, 7, 9, 10, 11, 13, 14, 15, 17, 18, 19, 20, 21, 22
Other (de-briefing methods)	5, 6, 8, 12, 16, 17, 19, 22

Discussion

Our systematic review yielded 22 studies that described how cross-cultural communication can be taught. The teaching techniques included lectures, interactive workshops, OSCEs, field trips, community immersion experiences, videos and e-learning. Some studies used single teaching techniques whilst others were multimodal. Other reviews of cultural competency interventions in general show a similar range of teaching methods but with a greater emphasis on lectures and discussion forums.[59]

4.1 Country of study perspective

Most studies were undertaken in medical schools in the USA. Only eight papers were produced in other countries including Australia (2), New Zealand (2), South Korea (1), Switzerland (1), UK (1) and the last paper was a joint paper with contributions by both Australia and UK. This reflects that most of the ICC skill models are researched by Western countries and there is debate whether the same principles can be applied to non-Western cultures[30]. Providing a narrow, Western focussed perspective on how cross-cultural skills should be taught, may lead to stereotyping, as Western education may carry paternalistic assumptions of ethnic minority groups[60]. The complexity of being able to deliver satisfactory healthcare to different cultures is especially perplexing when living in a multicultural country[61].

4.2 Teaching pedagogy

Despite the broad range of teaching modalities, determining how best to teach cross-cultural communication skills in medical schools remains uncertain. This is largely because there were few studies, only 27%, that analysed the effectiveness of their teaching beyond student satisfaction. Approximately 40% of the studies used formative or summative assessment to measure student performance. While there is strong evidence from our review and others [59] that cultural competence training generally, and cross-cultural communication specifically, improves participant knowledge, skills and attitudes, student satisfaction and even patient satisfaction [62] there is limited evidence that these educational interventions result in longer term skill or attitude retention in medical student or health professional participants nor improvement in health outcomes of patients[63]. One reason for this is that studies are usually very short term. The longest study in our series, for example, was 7 weeks post intervention[49]. Investigating longer term outcomes such as retention of participation knowledge, skills and attitudes and patient health outcomes is challenging in terms of study duration and difficulty in follow up of participants and patients.

Three studies utilised online learning practices [47,44,58] and the predominant mechanism of learning, where described, was 'comparing and combining' as well as 'broadening perspectives' as per de Groot's classification[8]. There were indications that learners in the online environment appeared to broaden, and compare, their perspectives through safe exploration of new territories and be able to reflect on experiences through facilitated online chat experiences. However students studying linguistics have a far greater understanding of the potential benefits of ICC on line than medical students[64].With online teaching likely to increase in future due to improved platforms, cost effectiveness and social distancing requirements, there may be opportunities for students to be exposed to a broader range of ethnic diversity in a safer on line learning environment.

We anticipated that the most effective ICC training programs would be those who scaffolded person centred communication skills with wider cultural competency skills – such as understanding one's world view, awareness of personal biases, and individual cultural knowledge[9]. Although there were many papers commenting generally on the importance of cultural competency training for medical students and junior doctors, studies focussed on ICC tended to not overtly combine patient centred with cultural competency skills.

4.3 Cultural immersion

The most common attribute of stronger papers (Colthart grading 3 or higher) was the inclusion of cultural immersion experiences such as community placements or experiences with real or simulated patients.

Cultural immersion experiences that included field visits to ethnic communities, outpatient clinic experiences, living in community including with families from specific cultures were often seen as highly authentic learning experiences. They usually involved the endorsement and support of community leaders, bicultural health workers (BCHWs) and educators from the specific ethnic or indigenous communities. These authentic community-based facilitators can provide a realistic immersion experience and help bridge the cultural gap between the ethnically diverse patient and doctor [53,65] .

BCHWs are uniquely placed to educate students on cross-cultural communication skills as they are people who have knowledge on both the culture of

the patient and health thus bridging the barriers between the patient/physician culture[65].

The potential effect of BCHWs on improving patient care have been widely documented as they address several aspects that affect quality of patient care such as community healthcare participation, educating providers on cultural relevance and contributing to continuity/coordination of ongoing treatment.[67,68,69,70,71,72] As such, BCHWs are a gateway for students to access authentic cultural experiences. Further analysis of their effects on teaching ICC skills will solidify the importance of incorporating these facilitators into the ICC skills curriculum.

Through cultural immersion experiences, involving interactive learning and active participation, students can appreciate the attributes of a patient outside the clinical environment. They can refine their communication skills and gain a deeper understanding of the psychosocial components interacting with the physiological components of the patient's illness, the context of healthcare, and how it is perceived within a community[73]. Students are also able to reflect on their own changes in attitudes towards the patient/ethnic community after completing a cultural immersion experience[74]. Community placements challenge the student's ability to adapt to a culture as their own perceptions and knowledge are continuously interacting and transforming with the environment around them[75]. Most importantly, cultural immersion experiences encourage students to practically apply their communication skills more from a patient-centred perspective. This specifically helps them identify their strengths and weaknesses in delivering patient centred care to culturally diverse patients.[76]

Teaching methods that included community immersion experiences or simulated patients had clearer conclusions and often addressed all four optimal mechanisms of learning[8].This helps form a stronger foundation for future educators when they are developing their own "cultural competence" education model. In turn, this may be due to the foundational nature of cultural immersion programmes as they can target multiple domains of learning such as cognition, affect and perception[77]. In terms of ICC skills, cultural immersion programs develop clinical and interpersonal skills simultaneously, which may lead to improved patient care[78.79].

One of the challenges of such programs is difficulties in finding and then sustainably resourcing community-based facilitators and educators for training medical students. Establishing long term mutually beneficial partnerships with ethnic communities takes commitment and resources from educational institutions[80]. Performing more prospective studies that incorporate BCHWs into cross cultural communication training programmes will be important to accurately assess their contribution in helping medical students gain competency in cross-cultural communication.

4.4 Reflective practice

Most of the stronger papers also included some formalised reflective practice such as pre/post intervention questionnaires, and post-intervention reflective discussion groups. However only one paper described a reflective essay as an essential prescribed task[54]. Reflective practice is globally recognised as a critical part of professional development and improving quality of patient care [81, 82,83]. Student reflection on ICC skills potentially can assist the self- appraisal of aptitude in cultural competency, patient centredness and non-verbal communication skills such as empathy and professionalism[84].

4.5 Iterative, spiral curriculum

Interestingly, article 1[39] in Table 2 had an outcome where students felt that their cultural competence decreased after attending a one-day workshop. Participants felt that there was not enough time to process intercultural issues. Students also felt that the workshop helped them realise that their intercultural awareness was more limited than they thought prior to the intervention. This article provides support for the recommendation that cultural competency programmes need to be taught in a repetitive and structurally sustainable manner over the whole medical course[9]. The core elements of cultural competency and communication skills training repeatedly build on, and hone each other, over the course of regular ICC training and whether one should be taught before the other or taught concurrently is contested[9]. These insights, highlighting the importance of reflection and continual revisiting cultural self-awareness, support the concepts of a spiral curriculum and iterative improvement of inter-cultural communication skills[85, 86.].

4. Limitations

The authors recognise that there are some limitations to this systematic review. The literature search was conducted in August 2019 and a subsequent search for papers was not conducted.

Furthermore, any foreign literature was excluded as articles only in English was analysed. As such publication and language bias may have been introduced into this review.

The process of study selection could have been even more rigorous if additional authors were involved in the selection panel. In additional the study selection was limited to ethnic diversity and this may not be representative of contemporary conceptions of diverse populations which have become very broad. We need to be cautious not to generalise the findings of this review to other diverse populations.

Some papers included in this analysis were qualitative, thematic papers. As such, some of these papers were subject to 'qualitative publication bias' [87] whereby there were subjective/unclear findings and the papers themselves were subject to author bias. However, we note that assessing cross-cultural competency is currently mostly a subjective area and that the lack of objective measurements of this assessment is why this literature review has been performed.

5. Conclusion

There is a wide range of inter-cultural communication training experiences, using various teaching pedagogies, taught in medical schools globally. These methods include singular workshops, didactic teaching courses, cultural immersion programmes such as community placements and online training modules.

While there were insufficient robust outcome measures to draw definite conclusions, it does seem likely the intercultural communication training that is based on known cultural competence and educational theory, combined with patient centred communication training. would be most effective at developing skills in the eyes of both participants, and to some extent ethnically diverse patients. In addition, it seems likely that intercultural communication training programs that are multimodal, experiential, reflective, revised through a spiral curriculum, led by ethnic community leaders (and or BCHWs), involve simulated patients, and include a cultural immersion experience give the best opportunity for effective learning.

More studies are required to investigate the medium- and long-term impacts of a best practice intercultural communication skills training programs delivered via an integrated curriculum, through the medical course, to assess longitudinal development of these critical communication skills in medical students, and after graduation, and ultimately, their impact on patient outcomes.

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The authors report no declarations of interest. The authors alone are responsible for the content and writing of the article.

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