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# Enhancing cultural awareness education for undergraduate medical students: Initial findings from a unique cultural immersion activity

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## RESEARCH

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## ABSTRACT

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### Background

Cultural awareness education is mandatory for medical programs, with particular emphasis on Aboriginal and Torres Strait Islander health. However, there is limited evidence to measure the impact of such education has on medical students.

### Aims

This paper presents the development and delivery of a cultural immersion activity for first year undergraduate medical students. Additionally we explore how this type of activity may improve attitudes, comprehension and perceived competence relating to working with and understanding people of different cultures.

### Methods

A pre- and post-survey design was utilised in connection with a cultural immersion activity. First year medical students (N=284, responses 196, 69 per cent) from three cohorts (2012–2014 inclusive) voluntarily completed a cultural awareness questionnaire, which contained items that related to perceptions, personal characteristics and educational competence. The main outcome measures

were changes in perceived cultural knowledge, awareness, beliefs and attitudes. Data were analysed using principal component analysis and obtained means comparison.

### Results

Principal component analysis revealed five dimensions for pre-post comparison: Knowledge Acquisition, Perceptions of Role Modelling, Internal Beliefs and Reflections, Personality Variables and Institutional Influences. Non-parametric means comparison showed increased ratings for knowledge acquisition and institutional influences ( $p < 0.001$ ), whilst a decline was noted for the personality variables ( $p < 0.05$ ).

### Conclusion

Cultural immersion has great potential to elicit positive shifts in attitudinal and knowledge related aspects of cultural awareness at early stages in medical curricula. Negative directions also suggest that students question their beliefs and behaviours relating to cultural knowledge.

### Key Words

Cultural awareness, medical education, Aboriginal, Torres Strait Islander, cultural immersion

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### What this study adds:

#### 1. What is known about this subject?

Cultural awareness education varies within medical curricula, with little or no knowledge about its impact or efficacy.

#### 2. What new information is offered in this study?

A new and unique cultural immersion activity is described alongside significant results relating to cultural awareness measured pre and post activity.

#### 3. What are the implications for research, policy, or practice?

Cultural immersion activities should be conducted as early as possible in medical/health professions curricula to maximise reflection and promote inclusionary practice.

## Background

There are many health educators who teach cross-cultural education and awareness with the aim to improve health outcomes for socially disadvantaged populations. They do this in varying ways with equally varying degrees of success. However, there is little literature about the impact that cultural awareness education has on medical students.<sup>1</sup>

In their systematic review Beach et al.<sup>1</sup> reported that cultural awareness training significantly improves knowledge and promotes positive attitudes amongst health professionals. However, recent research also indicates that such training is largely ineffective in improving doctor's skills, and maintains that cultural awareness education has little impact on doctor's behaviour or racial and ethnic minority health outcomes.<sup>2</sup> This has been explained by perceived mismatches between motivations for cultural awareness education, desires to alleviate barriers to effective health care of marginalised groups, and calls to eliminate racial and ethnic disparities in the quality of health care.<sup>3</sup> But, information on delivery and content is inconsistent if not absent. Other arguments pose that some approaches to cross-cultural education have the reverse effect and actually create hostility and racism.<sup>4</sup> Even when negative reactions are not specified, attitudes have at best been ambivalent, as some evidence suggests that medical students do not always perceive the teaching of cultural diversity as being directly relevant or useful to them.<sup>5,6</sup>

These conflicting viewpoints pose significant challenges to developing a culturally safe medical workforce.<sup>7,8</sup> Although challenging, they also provide opportunities to a) identify relevant innovative and positive medical cultural awareness curriculum content; and b) continually review on how to measure student cultural awareness.<sup>9</sup> This research area will contribute to the growing evidence needed to assist in closing the life expectancy gap between Indigenous and non-Indigenous Australians.<sup>10</sup>

A consensus exists to improve the health status of Aboriginal and Torres Strait Islander Australians, all health professionals need to be able to work effectively in the cross cultural context.<sup>11</sup> Several national initiatives have identified core requirements for medical students to ensure that they are both aware of and confident in working with Aboriginal and Torres Strait Islander Australians. The Australian Medical Council (AMC) set a number of standards to be met as part of the accreditation process for all Australian medical schools, and also outlined the need to deliver education around Aboriginal and Torres Strait Islander Health.<sup>12</sup> The Committee of Deans of Australian

Medical Schools (CDAMS) developed an Aboriginal and Torres Strait Islander Health Curriculum Framework<sup>13</sup> that provides medical schools with guidelines for success in developing and delivering Aboriginal and Torres Strait Islander health content in core medical education. Various medical colleges such as the Royal Australian College of General Practitioners have also issued similar standards.<sup>14</sup>

To meet these requirements set by the professional and accrediting bodies, we integrated Aboriginal and Torres Strait Islander health education across the 5-year undergraduate accelerated program. This included establishing an Indigenous Health Group, and mapping learning outcomes from the AMC, CDAMS and RACGP across the whole program.

The team deployed a variety of initiatives including nine one-week Indigenous identified problem-based learning cases, assessment and specifically targeted activities across the first three years and Indigenous clinical placements in the final year. One such activity was a cultural immersion camp delivered as part of the first year curriculum. Cultural immersion activities are not new to medical education, but have usually been implemented in later stages of medical curricula and often as electives.<sup>15</sup> Existing examples of immersion initiatives include a five day workshop developed by the John Burns School of Medicine at the University of Hawaii,<sup>16</sup> and innovations developed specifically for 4th year medical students at the University of Otago, New Zealand.<sup>17</sup> However, at the time of writing this article there are as yet no cultural immersion activities identified that are directed at undergraduate medical students in their first year of study. Therefore, to measure the impact of this cultural awareness education we developed a longitudinal study over five years of the medical curriculum. Currently the study is in its 4th year and this paper reports on survey findings from the pre and post cultural immersion activity of three cohorts in first year of the curriculum using a validated survey. Students repeat the survey in 3rd and 5th year of the curriculum. However, this paper only discusses first year activity to establish the impact and focus of the specific activities within the cultural immersion. As the literature reveals medical students perceived irrelevance of cultural awareness education, concerns exist that these perceptions are present among health and medical professions in general. It is therefore necessary to not only focus on the incorporation of standards as required by professional organisations, but also assess novel ways of delivering cultural awareness education such as immersion activities to ascertain early impact upon student's beliefs, attitudes and assumed competencies.

## Method

### Cultural immersion activity and study design

A survey was administered to first year students in a class two weeks prior to, and two weeks after a cultural immersion camp. Administering the survey during a class helped to maximise participating rates, but participation was voluntary. All students who completed the survey had read an information sheet, signed an accompanying consent form. They were assured of anonymity and confidentiality, as surveys were paper-based and not linked to any student record or assessment. The immersion camp itself related to Aboriginal and Torres Strait Islander health and more generally to cultural awareness. In the last three years all first year undergraduate students attended the camp. They stayed overnight on land on which the traditional custodians performed a Welcome to Country before splitting into four smaller workshop groups. The groups included nine student activities such as drawing their culture, analysing maps of Aboriginal Australian history and reflecting on their own cultural identity. All activities were linked to social determinants of health and the differences between Australia's Indigenous and non-Indigenous populations. Workshops were led by Aboriginal and Torres Strait Islander facilitators and academic staff. The immersion activity is part of the medical curriculum; however, ethical approval for survey administration was sought and approved by the Bond University Human Research Ethics Committee (approval reference number RO1543).

### Participants and recruitment

One hundred ninety six students completed both pre and post-immersion surveys (response rate: 69 per cent). All participants were Australian citizens, but represented numerous different cultural backgrounds.

### Survey development and administration

To create an optimal survey that assessed aspects of cultural awareness, the research team identified existing validated surveys and reviewed recommendations in relevant literature. A review of cross cultural evaluation studies found that research in this area was mainly split into two discrete areas: attitudes and behaviour or curricular effectiveness.<sup>18</sup> Survey content that focussed heavily on one area was deemed likely to affect the "authenticity" of responses from participants, who may not disclose their real beliefs or attitudes and instead conform to demand characteristics. To try and minimise these response patterns, the survey included questions that addressed relevant curriculum activity related to cultural awareness, as well as personal beliefs and attitudes. A 21-item cultural

awareness survey was compiled and distributed to students to assess their cultural knowledge and awareness levels (Table 1). Item responses comprised a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Three of the items were negatively worded and therefore reversed scored. The survey was constructed using 17 items from the 36-item Cultural Awareness Scale<sup>19</sup> that had high content validity (0.88) and reliability coefficient (0.91), and four additional items adapted from the Nurse Cultural Competence Scale, a 20 item questionnaire validated through Mokken Scaling.<sup>20</sup> These two scales were chosen due to these statistics and their application in a wide variety of learning contexts within healthcare. Reliability and internal consistency analyses for the survey produced an acceptable level ( $\alpha=0.74$ ) considering the changes that were applied to items.

### Analysis

Data reduction was performed using a principal component analysis (PCA) with a varimax rotation. This enabled the establishment of specific components that were subsequently used as comparative units of analysis between pre and post survey data. Means of questionnaire items were then compared using non-parametric tests.

## Results

### Principal component analysis (PCA)

PCA was used to identify dimensions underlying cultural awareness. An inspection of the variance table showing the total variance explained by the extracted dimensions revealed five components with Eigenvalues greater than 1. This six component solution accounted for a total of 56.5 per cent of the variance. Two smaller components did not have sufficient item loadings but shared some thematic coherence and were instead grouped together, resulting in five components being used as the basis for comparative analysis. Reliability analysis for the items produced a Cronbach Alpha of 0.69, which was considered acceptable given the inclusion of both curricular and intrapersonal questionnaire items. The five components were outlined and interpreted as follows (see table 1 for factor loadings):

Component 1 – *Knowledge acquisition, retention and dissemination* comprised items that reflected the ability to explain cultural influences on health, and the ability to find out information from others.

Component 2 – *Perceptions of role modelling* represents behaviours that health professional educators directly exhibited when facilitating cultural awareness.

Component 3 – *Internal beliefs and reflections* contained statements that reflected intrapersonal cognitions that led to outward behaviours relating to cultural awareness.

Component 4 – *Personality variables* is a descriptor that applies to students being able to work with individuals of different cultures, including engagement or withdrawal from people of other cultures.

Component 5 – *Institutional influences on cultural knowledge*, comprised items that addressed how the curriculum and classroom environment affected cultural knowledge.

#### Non-parametric tests

PCA allowed dimension reduction of the data, and allowed smaller areas for comparisons to be made between the pre and post-immersion questionnaires. A Mann-Whitney U test determines differences between questionnaire items pre and post the cultural immersion activity. From the 21 questionnaire items in the questionnaire, nine were found to have showed significant differences pre and post immersion activity. Four out of the five items were found in component 1 (knowledge acquisition, retention and dissemination) to be statistically significant, as were three of the five items within component 4 (personality variables).

Initial findings revealed positive shifts in various dimensions of cultural awareness amongst first year undergraduate medical students. The most notable differences occurred within knowledge acquisition, retention and dissemination (items 18–20,  $p < 0.001$ ). The remaining statement (item 21) in this component was significant at the 95 per cent confidence interval ( $p < 0.05$ ), which infers that students positioned themselves as making more effort to learn about how cultural factors affected health theory, delivery and behaviour following the cultural immersion. Institutional and curricular influences also showed positive directions after the immersion.

Experiences within the medical school and the curriculum were highly significant (Items 1 and 13,  $p < 0.001$ ). The institutional context therefore cannot be ignored when determining how students learn about cultural awareness as well as what they learn. While other items in this component relating to classroom behaviours and environment were not statistically significant, they are legitimate points of enquiry as they contribute to overall experience within the medical school. Other significant differences related to students' intrapersonal evaluations of their ease with people for other cultures. Item 8 saw a marked change in ranking where survey responses that students strongly disagreed with feeling uncomfortable in

the company of people from different cultural or ethnic backgrounds, having previously disagreed with less emphasis. However, item 6, despite being positively worded to say “comfortable”, showed a slight decline in students' perceived ease of working with people from other cultural groups. While both items fall in the same component of intrapersonal variables, it is notable that this item was the only one negatively ranked following the immersion that was also significant at the 95 per cent confidence interval ( $p = 0.02$ ).

#### Discussion

Differences in the pre and post survey data infer that the immersion activity, and other curricular activities, could contribute to a positive shift in cultural awareness. Items that specifically enquired about the relationship between culture and health were likely to be associated with and therefore interpreted closely alongside the educational context of learning medicine, which may partially account to the positive shift post immersion. The increase in knowledge of the relationship between culture and health outcomes, in the comparative short timeframe pre and post immersion, provides positive endorsement for educational activities such as these.

Research has already identified dissonances between ideals to remove barriers to the effective health care of marginalised groups, and the call to eliminate racial and ethnic disparities in the quality of health care. Given the significant results reported here, we argue that is possible to address such a mismatch, by placing an immersion activity in the early stages of a medical program and allowing such knowledge and awareness to be processed over time in an integrated fashion. Additionally, the integration of survey questions that address educational/curricular issues alongside individual personality constructs may also address the gap between intention and behaviour, as evidenced by some declines in negative shifts in response items that may reflect deeper processing of issues relating to disadvantaged populations. This supports the inclusion of questions that ask students how familiar they are with links between health and culture, with the view that they would recognise health inequalities that they might otherwise have overlooked without having the opportunity of attending an immersion and being asked directly about integrating their knowledge.

The one negatively rated item post immersion was the level of comfort that students felt working with people of other cultures. This initially seemed at odds with the shift towards strongly disagreeing that they were uncomfortable in the

company of individuals from other ethnic groups. However, it could be asserted that having participated in the cultural immersion, students recognised the importance of culturally sensitive and safe working and therefore appreciated that they had much more to learn as an occupational environment is different to that provided by ordinary social contexts.

The limitations of survey methods often include the possibility of respondents conforming to demand characteristics, which is why the questionnaire included both attitudinal and educational items alongside positively and negatively worded ones. The lack of a control cohort who did not complete the immersion activity reduces the strength of the inference that the activity itself was singularly responsible for the identified differences in knowledge, personal comfort and institutional influence. This is largely because the immersion activity was developed with members of the local Indigenous community and every effort was made to ensure that it was developed and run appropriately and sensitively. Other universities with medical student cohorts were considered, however our institution's accelerated curriculum does not facilitate a like-for-like comparison with a similar cohort.

Careful consideration was paid to selecting and modifying items for the survey, and it is reasonable to query the possible limitations of using of questionnaires originally aimed at nursing students for medical students; however the research team agreed that this was mitigated by the established pedigree of cultural awareness research that has occurred within nursing. It therefore was prudent to modify these materials with existing high reliability coefficients, than to use lesser known ones from a much smaller body relating to medical students.

Other variables, such as the recency effect of the cultural immersion may also account for the differences in item ratings. We also cannot account for individual differences between students, such as their life experiences that may have influenced their existing levels cultural awareness. However, from evaluations previously conducted about the cultural immersion<sup>21</sup> it is evident the many students were not aware of the specific cultural issues that affected health outcomes of Aboriginal and Torres Strait Islander communities, and may have answered from the naïve rather the experienced perspective. The cultural immersion activity has also remained stable over the three years reported here. No changes occurred in terms of workshops delivered within and the personnel running them, thereby maximising consistency in student experience.

## Conclusion

While acknowledging the aforementioned limitations, this study presents a sound basis for activities such as cultural immersion to be introduced earlier on in medical curricula, to maximise awareness of Aboriginal and Torres Strait Islander health, and thereby enable participants to consider wider cultural issues relevant to health professionals' education. The differences in pre and post data suggest that future cohorts should continue to be surveyed pre and post immersion activity and in later years of the medical curriculum. Furthermore, surveying cultural awareness by simultaneously asking curricular questions in alongside attitudinal ones (rather than separating them) provides insight into how students may associate their beliefs and behaviours in relation to the medical teaching environment. As the longitudinal study progresses, there is also scope to examine demographic variables (such as whether education levels or prior work experiences influence the comparisons observed pre and post immersion.) Ultimately, it is clear that more research must be conducted over time to see how cultural awareness changes across curriculum years and also to continually review the impact of major curricular inclusions such as immersion.

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## PEER REVIEW

Not commissioned. Externally peer reviewed.

## CONFLICTS OF INTEREST

The authors declare that they have no competing interests.

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None

## ETHICS COMMITTEE APPROVAL

Approved by Bond University Human Research Ethics Committee # RO1543

**Table 1: Principal component analysis of questionnaire items with Varimax rotation (values >0.04 in bold)**

	Survey Item	Component				
		1	2	3	4	5
1	Experiences at this medical school have helped me to become knowledgeable about the health problems associated with various cultural groups	0.267	0.061	-0.025	-0.034	<b>0.721</b>
2	I think my beliefs and attitudes are influenced by my culture	-0.026	0.049	<b>0.893</b>	0.004	0.104
3	I think my behaviours are influenced by my culture	0.01	0.106	<b>0.888</b>	0.048	0.04
4	I often reflect how culture affects beliefs, attitudes and behaviours	0.329	-0.02	<b>0.431</b>	-0.21	-0.239
5	I am less patient with individuals of certain cultural backgrounds	-0.03	-0.112	-0.042	<b>0.646</b>	-0.073
6	I feel comfortable working with people of all ethnic groups	0.214	0.313	-0.063	<b>-0.509</b>	-0.012
7	I believe a doctor's own cultural beliefs influence their health care decisions	0.225	0.003	0.364	<b>0.457</b>	0.053
8	I typically feel somewhat uncomfortable when I am in the company of people from cultural or ethnic backgrounds different to my own	-0.086	0.075	-0.029	<b>0.708</b>	-0.094
9	I think students' cultural values influence their classroom behaviours (e.g., asking questions, participating in groups, offering comments).	0.078	0.089	0.074	0.188	<b>0.81</b>
10	I believe the classroom experiences at this medical school help students become more comfortable interacting with people from different cultures.	0.023	0.095	0.135	-0.217	<b>0.591</b>
11	I believe some aspects of the classroom environment at this medical nursing school may alienate students from some cultural backgrounds	0.004	-0.315	-0.056	0.456	-0.012
12	I feel comfortable discussing cultural issues in the classroom	0.24	<b>0.581</b>	-0.062	-0.039	0.082
13	My curriculum at this medical school have helped me become more comfortable interacting with people from different cultures	0.214	0.291	0.086	-0.059	0.676
14	I feel that the instructors at this medical school respect differences in individuals from diverse cultural backgrounds	-0.065	<b>0.727</b>	0.165	-0.234	0.1
15	The instructors at this medical school model behaviours that are sensitive to multicultural issues.	-0.015	<b>0.794</b>	0.094	0.026	0.124
16	The instructors at this medical school use examples and/or case studies that incorporate information from various cultural and ethnic groups	0.275	<b>0.518</b>	0.016	-0.067	0.118
17	If I need more information about other people's patient's culture, I would feel comfortable asking people I work with	<b>0.478</b>	0.459	-0.047	-0.167	-0.12
18	I can explain the influences of cultural factors on one's beliefs/behaviour towards health or illness to people from diverse ethnic groups	<b>0.738</b>	0.136	0.027	-0.041	0.198
19	I am familiar in health or illness-related cultural knowledge or theory	<b>0.785</b>	-0.03	0.019	0.016	0.255
20	I can explain the influence of culture on people's beliefs/behaviour about health/illness	<b>0.767</b>	0.143	0.018	-0.012	0.199
21	I usually actively strive to understand the beliefs of different cultural groups.	<b>0.488</b>	0.19	0.204	-0.098	-0.214