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Does Cross-cultural Training in Tertiary Education Enhance Cross-cultural Adjustment? A
Systematic Review

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Abstract

The increasing cultural diversity within tertiary education and workplace environments requires students and graduates to be knowledgeable and effective in cross-cultural adjustment and managing potential acculturative stress. One of the ways to increase their cross-cultural adjustment is via cross-cultural training (CCT). Given the predominantly business-oriented nature of previous reviews, this paper systematically examined whether CCT was effective when applied to tertiary students. The analysis of different types of CCT and its outcomes was guided by Ward, Bochner, and Furnham's (2001) ABC (Affective, Behavioural, and Cognitive) model that comprehensively explained the affective, behavioural, and cognitive facets of cross-cultural adjustment. We reviewed 35 CCT studies published post-1990 with control group design or pre-post training evaluation. CCT in tertiary education has become increasingly multi-method and experiential. CCT programs with behavioural components had the most consistent evidence of effectiveness. Programs with both behavioural and cognitive components were more effective than cognitive- and didactic-alone programs. CCT appeared to be particularly effective in enhancing tertiary students' academic and career performance. Practical implication and suggestions for future research directions are discussed.

Keywords: acculturation, cross-cultural adaptation, cross-cultural training, diversity education, intercultural training, internationalisation

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Does Cross-cultural Training in Tertiary Education Enhance Cross-cultural Adjustment? A Systematic Review

Tertiary student populations worldwide have become increasingly culturally diverse, particularly in major destinations for international students (Mak & Barker, 2013). For example, in 2015, nearly a quarter of onshore Australian tertiary students were international students (The Department of Education and Training, 2016). International students simultaneously face the challenge of adjusting to life in a foreign country, while striving to meet academic milestones, whereas domestic students are increasingly challenged with studying and living alongside others from culturally and linguistically diverse (CALD) backgrounds (Bodycott, Mak, & Ramburuth, 2014). Graduates are also likely to find themselves in increasingly multicultural workplaces. Specifically, professional standard boards such as the Australian Health Practitioner Regulation Agency (2016), stipulate that the ability to interact and communicate with CALD clients is a core competency for Australian health care professionals.

The aspiration to prepare students and graduates for the challenges of an increasing international and intercultural contact has led many tertiary education institutions to focus on internationalisation within their strategic plans. One of these initiatives involves internationalising the curriculum (IoC), which is the incorporation of an international and intercultural dimension into the preparation, delivery, and outcomes of a program of study (Leask, 2009). Although tertiary education could provide an ideal setting and golden opportunity for students to engage in professional and personal development courses that promote cross-cultural effectiveness, formal educational methods to foster students' cross-cultural knowledge, adjustment, and skills remain uncommon. Tertiary institutions may be

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more motivated to implement these methods if they are evidence-based in terms of their design, implementation, and evaluation (Mak & Barker, 2013).

Acculturative Stress and Cross-cultural Adjustment

Acculturation occurs as a result of contact between individuals from two or more cultural groups and embodies the dual processes of cultural and psychological changes (Berry, 2006). Owing to various individual, institutional, and societal barriers accompanying acculturation, intercultural contact may result in acculturative stress (Berry, 2006). Depending on the extent of a person's psychological resilience and available supports, acculturation can impact on one's ability to cope and wellbeing. Various researchers have offered insight into the development of intercultural competence and effective acculturation strategies that could reduce acculturative stress and facilitate coping during acculturation (e.g. Anderson, 1990; Berry 2006; Bhawuk, 1998; Black, 1988; Chen & Starosta, 1997; Cushner & Brislin, 1996; Deardorff, 2006; Earley & Ang, 2003; Stier, 2003; Ward, Bochner, & Furnham, 2001).

Notably, Ward and colleagues (e.g. Ward, 1996; Ward et al., 2001; Ward & Kennedy, 1993) developed the ABC (Affective, Behavioural, and Cognitive) framework of intercultural contact that highlights the active process of cross-cultural adjustment. The "affective" component of the ABC model, which was built on Berry's (e.g. 1980, 2006) work, examined the relationships among acculturative stress and coping strategies, individual characteristics, and contextual factors surrounding intercultural contact, and how these factors influence cross-cultural adjustment outcome. Ward et al. (2001) argued that sojourners new to a cultural environment must deal with a wide array of emotions such as confusion, anxiety, disorientation, and possibly grief. In order to function effectively in the new environment, sojourners need to draw on various personal and interpersonal coping resources to maintain their psychological wellbeing during acculturation. Interventions oriented towards positive

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cross-cultural affective adjustment could focus on reducing cross-cultural anxiety, increasing self-efficacy and emotional resilience, and developing effective emotional coping strategies.

The “behavioural” component of the ABC model is based on social learning principles (Bandura, 1977). Ward et al. (2001) posited that a person’s ability to display appropriate behavioural social skills is crucial for successfully negotiating the situational and social demands of a new culture. Experiential learning, in which desired behaviours in cross-cultural interactions are modelled, could help sojourners develop cognitive associations around outcome expectations during cross-cultural interactions. Through repetition, established cognitive associations could enhance sojourners’ cross-cultural self-efficacy. This refers to sojourners’ perceived competency in cross-cultural interactions, and is positively related to sojourners’ cross-cultural adjustment and performance. Ward et al. (2001) also pointed out that it is important for sojourners to acquire relevant knowledge about the new culture that would complement their cross-cultural behavioural social skills. Therefore, interventions that help improve sojourners’ verbal and non-verbal social skills in cross-cultural interactions could include behavioural social skills modelling training. In addition, cultural knowledge should be given to sojourners around the differences and similarities between their own national and the host national communication patterns, and how such rules and conventions regulate interpersonal communication and interactions in the new culture (Ward et al., 2001).

The final component of the ABC model is “cognition”. The cognitive component explains cross-cultural adjustment processes via a combination of existing cultural identity and intergroup relations theories (Ward et al., 2001). This facet of the model focuses on a sojourner’s perception of self and others, and how it regulates relations between the sojourner and his or her ethnic group (in-group) and other ethnic groups (out-groups). While cultural identity is affected by a wide range of factors on individual and group levels, sojourners need

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to learn to appreciate the advantages of cultural diversity and cultural relativity of values in order to successfully integrate into a new culture (Ward et al., 2001). Interventions targeting the cognitive component could involve cultural sensitivity and awareness training.

The ABC model is considered the most comprehensive psychological framework that summarises the three facets of cross-cultural adjustment, and has provided useful guidelines on how to target each of these domains in designing interventions (Ward et al., 2001).

However, surprisingly, many current trainers and educators delivering programs dedicated toward enhancing cross-cultural adjustment rarely consider theoretical rigour during program design, implementation, and evaluation.

Cross-cultural Training: Evidence of its Effectiveness

Cross-cultural training (CCT) refers to formal educational effort to help elicit affective, behavioural, and cognitive changes for improving cross-cultural adjustment and communication (Landis, Bennett, & Bennett, 2004). Previous reviews examining the effectiveness of CCT have indicated mixed results (Bhawuk & Brislin, 2000; Black & Mendenhall, 1990; Black, Mendenhall, & Oddou, 1991; Deshpande & Viswesvaran, 1992; Deshpande, Joseph, & Viswesvaran, 1994; Kealey & Protheroe, 1996; Kulik & Roberson, 2008; Littrell & Salas, 2005; Mendenhall et al., 2004; Morris & Robie, 2001).

Previous CCT reviews have been problematic for a range of reasons. Firstly, to date most reviews of CCT effectiveness have focused on CCT as applied to expatriation within business and organisational sectors (e.g. Littrell & Salas, 2005; Morris & Robie, 2001). The reviews by Deshpande et al. (1994) and Kulik and Roberson (2008) were among the first to consider how CCT was applied to student demographics. Deshpande et al.'s (1994) meta-analysis focused on whether results derived from student samples could be generalised to expatriate managers, and concluded that owing to a lower true mean correlation in the student samples compared to the non-student samples, student samples represented an

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underestimation of the effectiveness of CCT. Kulik and Roberson (2008), on the other hand, were more interested in drawing comparisons between CCT that was delivered in tertiary education versus those delivered in organisational settings. Their review found strong positive evidence for improvement in cross-cultural knowledge via CCT in both settings. However, mixed results were observed for diversity attitudinal change. While there was general positive improvement in overall attitudes towards diversity, attitudes towards specific demographic groups were more resistant to positive change. Kulik and Roberson (2008) further found that skills learning in CCT is uncommon. Although participants generally perceived themselves as having more skills after CCT, few studies examined objective behavioural skills, and among those studies, inconsistencies were reported.

Secondly, it was debatable whether CCT is effective based on previous reviews. While they tend to conclude that CCT has an overarching positive effect on participants' cross-cultural adjustment, it was difficult to synthesise reported results owing to different foci and lack of consensus on the definition of cultural competency and ways to categorise measures of cultural competency (Black & Mendenhall, 1990; Kealey & Protheroe, 1996; Mendenhall et al., 2004). This inconsistency is partly due to the lack of theory-based development and evaluation among most CCT programs (Black & Mendenhall, 1990). Black and Mendenhall (1990) advanced the literature by adopting Bandura's (1977) social learning theory as a framework to explain the effectiveness of CCT. They found that experiential methods, which involve "learning through doing" were more effective in improving cross-cultural adjustment, compared to methods based on didactic or cognitive components alone.

The third issue is that most available CCT reviews focused on CCT outcomes and treated all CCT as one generic activity rather than considering different types of CCT. Littrell and Salas (2005) offered practical guidelines to the design, delivery, and evaluation of CCT in their review. While helpful suggestions such as the use of multiple delivery

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strategies and tailoring programs according to the unique needs of trainees were made, these conclusions were not deduced systematically based on available CCT data nor were they based on any evidence-based theory. To our knowledge, Bhawuk and Brislin (2000) have conducted the only review so far that examined the effectiveness of a specific CCT intervention tool- the culture assimilator. Culture assimilators are a form of training tool that was popular in early CCT programs. Culture assimilator programs are designed to increase trainees' understanding of cultural differences by presenting the trainees with difficult cross-cultural scenarios and asking them to reflect on the possible sources of misunderstanding. Trainees are then provided with multiple behavioural alternatives for such scenarios and rationale for which specific behaviours are preferred (Flanagan, 1954). Bhawuk and Brislin (2000) concluded that culture assimilators were effective in eliciting participants' cross-cultural affective, behavioural, and cognitive adjustment. Their review, however, was by no means sufficient to address the breadth and variety of approaches used within contemporary CCT.

In summary, while there is evidence to support CCT's general effectiveness on training outcomes (Kulik & Roberson, 2008), there are multiple gaps in the literature that warrant further investigation. In particular, adopting a focus on the mechanisms underlying the effectiveness of CCT programs would advance research on CCT evaluation.

Conceptualising Cross-cultural Training Using the ABC Model

As noted earlier, a common issue with many available CCT programs is that their development and subsequent evaluation is rarely guided by evidence-based psychological frameworks (Black & Mendenhall, 1990). As a result, there is a question of validity of these programs and whether outcome measures fully showcase the effects of CCT. We note that Ward et al's (2001) ABC model could provide a comprehensive psychological framework in explaining sojourners' affective, behavioural, and cognitive adjustment during acculturation,

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and can be readily applied to CCT. Ward et al. (2001) have indicated that psychosocial interventions designed to assist sojourners' successful cross-cultural adjustment often involve enhancing emotional resilience and cross-cultural self-efficacy through behavioural social skills training, while providing relevant information about the new culture, as well as cultural awareness and sensitivity training. The ABC model could provide a useful guide to advancing CCT evaluation researchers' understanding of the typology and outcomes of CCT.

Based on the ABC model, available CCT can be broadly classified into four types of psychosocial interventions: didactic, cognitive, behavioural, and cognitive-behavioural.

Didactic teachings include psychoeducation, studying the politics and geography of an area, and practical information pertaining to living or interacting in a new culture. This is one of the most common types of CCT as it is straightforward, time-efficient, inexpensive to run, and facilitators often find positive and immediate training outcomes (Bhawuk & Brislin, 2000). Cognitive approaches involve identifying maladaptive cross-cultural communication patterns, and increasing participants' awareness of cultural differences through cultural sensitivity and awareness training (Ward et al., 2001). Behavioural approaches involve cross-cultural behavioural social skills training, in which participants practise appropriately modelled verbal and non-verbal behaviours during cross-cultural interactions (Ward et al., 2001). Cognitive-behavioural interventions provide a hybrid of cognitive and behavioural-based intervention strategies.

Also, based on the ABC model, CCT outcomes can be categorised into four types: cross-cultural affective adjustment, cross-cultural behavioural interaction skills, cross-cultural knowledge, and cross-cultural cognitive adjustment and attitude. Conceptualising CCT types and outcomes according to the ABC model is the first step to elucidate the distinct mechanisms underlying effective CCT, and thus creating a basis for future CCT development and evaluation.

Purpose of the Current Study

The overarching aim of this study is to assess the effectiveness of CCT within tertiary education. Most reviews of CCT to date have focused on whether CCT helped expatriates to be more successful in cross-cultural interactions and work productivity within business and organisational settings. CCT is also highly relevant in tertiary education, yet review of CCT evaluation in this setting has received relatively little attention. To our knowledge, Kulik and Roberson (2008) have presented the only review that specifically examined the effects of CCT in tertiary education settings. Clearly more research on this topic is needed to replicate their findings.

There are two further specific objectives for the current study. Firstly, this study categorised and evaluated different types of CCT according to the ABC model. Black and Mendenhall (1990) commented that one of the deficiencies of available CCT is that their development and evaluation were rarely guided by theoretical frameworks. This posed challenges around practical guidelines for implementing CCT programs. Rather than treating all CCT as one generic activity, this study attempted to conceptualise and categorise CCT into four types of psychosocial interventions consistent with the ABC model (*didactic, cognitive, behavioural, and cognitive-behavioural*).

Another specific aim of the current study was to categorise CCT outcomes according to the ABC model. This is to address the problem with available CCT reviews of defining and categorising measures of cross-cultural competency inconsistently (Black & Mendenhall, 1990). Kulik and Roberson (2008) categorised outcome measures in their review based on commonly used typology in the training and education literature (that is, diversity knowledge, attitudes, skills and behaviour), but not on a particular theoretical model. Categorising CCT outcomes according to the ABC model also highlights the importance of assessing trainees'

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affective cultural adaptation, independent of their general adjustment or attitudinal change.

Ward et al. (2001) pointed out that sojourners' psychological wellbeing and psychosocial satisfaction during intercultural transition is an important part of determining cross-cultural success. Therefore, we decided on five CCT outcome categories in this study. Four of these were consistent with the ABC model, namely, *cross-cultural affective adjustment*, *cross-cultural behavioural interaction skills*, *cross-cultural knowledge*, and *cross-cultural cognitive adjustment and attitude*. An additional CCT outcome category *academic and career related performance* was included in this study owing to its relevance to tertiary education.

Method

Search Criteria and Strategies

The search for tertiary education CCT evaluation literature was restricted to English language studies published between 1990 and 30 March 2015. Consideration was given to Bhawuk and Brislin's (2000) review, which commented that the field of cross-cultural training began to crystallise in the early 1990s. Included studies were those with tertiary education students as research participants and published in peer-reviewed journals. All cross-cultural training groups in included studies were analysed with either a pre-/post-test design, or compared directly to a control group in which no intervention was provided.

Search strategies included examining reference lists in important peer-reviewed cross-cultural training reviews (e.g., Bhawuk & Brislin, 2000; Black & Mendenhall, 1990; Mendenhall et al., 2000) and manual searching through two leading peer-reviewed journals on cross-cultural training and development- *Journal of Cross-Cultural Psychology* and the *International Journal of Intercultural Relations*. Electronic database search utilised *Google Scholar*, *PSYCINFO*, *Psychology & Behavioral Sciences Collection*, *ERIC*, *A+Education*, *Education Research Complete*, and *Scopus*. Search terms used were *training*, *intercultural*, *diversity education*, *cross-cultural orientation*, and *cross-cultural*. Abstracts of articles

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retrieved from search results were examined and those that met inclusion criteria were investigated further.

Design and Data Analysis Framework

CCT was categorised into four types: *didactic*, *cognitive*, *behavioural*, and *cognitive-behavioural*. Owing to the diversity of outcome variables obtained from the included cross-cultural training interventions, outcome variables were categorised depending on the primary nature of the constructs. Thus, outcome variables were categorised into five domains: *cross-cultural affective adjustment*, *cross-cultural behavioural interaction skills*, *cross-cultural knowledge*, *cross-cultural cognitive adjustment and attitude*, and *academic and career related performance*. Examples of outcome variables that fall under *cross-cultural affective adjustment* included *affective racial attitudes*⁹ and *intergroup anxiety*^{15B}. For *cross-cultural behavioural interaction skills*, examples of outcome variables included *interaction skills*¹⁹ and *behavioural cultural intelligence*^{10A,10B}; whereas *making correct cross-cultural attributions*³ and *culture specific knowledge*²⁶ were examples of *cross-cultural knowledge*. For *cross-cultural cognitive adjustment and attitude*, examples of outcome variables included *cross-cultural adaptability*¹³ and *culture orientation*²². For *academic and career related performance*, examples of outcome variables included *university-specific knowledge*²⁶, and *academic adjustment*²⁶.

Owing to marked diversity of constructs within each CCT outcome category, this review did not adopt a meta-analytic approach. For example, within the broad category of *cross-cultural cognitive adjustment*, constructs such as *cross-cultural interest* (Gannon & Poon, 1997), *intercultural sensitivity* (Bhawuk, 1998), and *cross-cultural adaptability* (Goldstein & Smith, 1999) all differ in terms of theoretical orientation and practical implications. Therefore, mathematically collating and comparing effect sizes derived from these heterogeneous variables would be inappropriate (Morris & DeShon, 2002). Also, a

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meta-analytic approach would exclude studies that reported insufficient statistical data for effect size calculations. This would mean eliminating certain types of CCT when investigating the effectiveness of such. For example, all three studies (Bruschke, Gartner, & Seiter, 1993; Prugger & Rogers, 1994; Sizoo & Serrie, 2004) that delivered only didactic sessions reported insufficient statistical data for effect size calculation. Thus, a systematic review of this topic allowed for more generalisable conclusions.

The results of included studies were categorised into six groups: *significant positive results*, *partially significant positive results*, *non-significant results*, *partially negative results*, *significant negative results*, and *mix of all three types of results*. This method was used to determine the effectiveness of CCT, especially those with multiple outcome measures within one evaluation study. *Significant positive results* referred to consistent statistically significant positive results. *Partially significant positive results* referred to a combination of statistically significant positive results and non-significant results. *Non-significant results* referred to consistent non-significant results. *Partially negative results* referred to a combination of statistically significant negative results and non-significant results. *Significant negative results* referred to consistent statistically significant negative results. *Mix of all three types of results* referred to a mixture of statistically positive, non-significant, and negative results.

Results

Accepted Studies

Twenty-nine CCT evaluation publications met the inclusion criteria. Five of these publications included multiple studies (D'Andrea, Daniels, & Heck, 1991; Eisenberg, Lee, Claes, Mironski, & Bell, 2013; Klinge, Rohmann, & Piontkowski, 2009; Vezzali, Crisp, Stathi, & Giovannini, 2015; Westwood & Barker, 1990), while seven included multiple CCT intervention groups (Altschuler, Sussman, & Kachur, 2003; Bhawuk, 1998; Bruschke et al., 1993; Gannon & Poon, 1997; Klinge et al., 2009; Pruegger & Rogers, 1994; Sizoo & Serrie,

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2004). Therefore, this review included a total of 35 CCT evaluation studies of 46 different CCT intervention groups, with a median group size of 32, and a total of 2834 tertiary education students as research participants. The Appendix summarises the types of CCT, sample characteristics, study design and methodology, and key outcome variables in each study. Where possible, we calculated effect sizes using Cohen *d*'s formula from Cohen, 1988.

Types of participants.

Fifteen studies (42.9%) had post-graduate university students as participants while two studies (5.7%) had medical students. Therefore, almost half of the studies focused on tertiary students with high academic achievement. Fifteen studies (42.9%) recruited mixed groups of domestic and foreign students, 11 studies (31.4%) recruited students from foreign cultural backgrounds, and five studies (14.3%) recruited domestic students. The ethnicity of participants in the remaining four studies (11.4%) was unclear. Training intervention group sample sizes varied between 8 and 373 participants (*Mdn* = 32; *M* = 61.6; *SD* = 80.5). Seventeen out of 46 training groups (36.7%) had samples of 25 participants or less.

Study design and data collection methods.

In terms of study design, nine studies (25.7%) randomly allocated participants into either experimental or control groups. Twenty-six studies (74.3%) were quasi-experimental. All studies utilised self-report surveys. Four studies (11.4%) incorporated other data collection methods (e.g., academic transcripts and academic drop-out rates, and feedback from medical residency program director).

Training Methods and Approach

Five out of 46 training groups (10.9%) used didactic sessions, 30 training groups (65.2%) used cognitive-based programs, 2 (4.3%) were behavioural-based programs, and 9 training groups (19.6%) were cognitive-behavioural programs.

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The number of different types of training methods utilised in cross-cultural training groups varied from one to nine ($M = 3.6$, $SD = 2.0$). Approximately two-thirds (67.4%) of 46 cross-cultural training groups had at least three training methods. Figure 1 depicts the types and frequencies of CCT methods. Group discussions, lectures, individual or group exercises, and role plays were the most frequently used CCT methods. Culture assimilators were one of the lesser used methods. Language preparation, support groups, and individual rehearsal of behavioural strategies were among the least used CCT methods.

The duration of training varied greatly among training groups, from 10 to 15 minutes of behavioural strategies rehearsal in Aguilera and Li (2009) to CCT interventions that spanned an academic semester or year, usually through lectures within academic curricula (e.g., Castillo, Brossart, Reyes, Conoley, & Phoummarath, 2007; D'Andrea et al., 1991; Young & Schartner, 2014).

*****Insert Figure 1 here*****

Effectiveness According to Different Types of Training

Table 1 summarises the four types of cross-cultural training and their outcomes. The overall results were mostly positive, with 32 (69.6%) out of the 46 training with consistently positive or partially positive results for their outcome variables. Twelve groups (26.1%) had either non-significant results or a mix of significantly positive, non-significant, and significantly negative outcomes. Two training groups (4.3%) had partially negative results, and no groups had consistent significant negative results.

Of the consistently positive results, behavioural-based programs appeared to be the most effective. This is followed by cognitive-behavioural programs and cognitive-based programs; these programs had the largest proportions of training groups with a combination of consistently positive and partially positive results. Didactic-alone programs had no consistently positive or partially positive results, but rather either non-significant or partially

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negative results. Both cognitive-based programs and cognitive-behavioural programs had relatively small proportions of studies that had either non-significant results or a mix of significantly positive, non-significant, or significantly negative results. No training intervention type had consistent significant negative results.

Standardised mean effect sizes were calculated where sufficient data were reported and are reported here by type of CCT. The mean Cohen's d was 1.82 (very large effect; Cohen, 1988) for six out of nine cognitive-behavioural training groups, across 30 outcome variables. The mean d was 1.60 (very large effect; Cohen, 1988) for one out of the two behavioural-based training groups, across three variables. The mean d was 0.61 (moderate effect; Cohen, 1988) for 23 out of the 30 cognitive-based training groups, across 73 outcome variables. There were insufficient statistical data in the five didactic-only CCT groups to compute Cohen's d .

Taking into consideration a combination of proportion of studies with significant outcomes and mean effect sizes, it appeared that CCT was most effective when programs went beyond didactic presentations and included both cognitive and behavioural elements in their delivery. Specifically, CCT with behavioural modification components appeared to have the most consistent evidence for its effectiveness.

*****Insert Table 1 here*****

Effectiveness in Terms of Specific Outcomes

Table 2 summarises results for five categories of cross-culturally related outcomes. Overall, outcomes were generally positive. Each outcome category had at least 40% of statistically consistent positive or partially positive results. CCT was most effective in enhancing students' *academic and career related performance*; this outcome category had the largest proportion of consistently positive results (61.5%), as well as consistently positive and partially positive results (100%). *Cross-cultural knowledge* had the second largest

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proportion of consistently positive results (50%) and combination of consistently positive and partially positive results (56.2%). Although *cross-cultural cognitive adjustment and attitude* had the third largest proportion of training groups which had a combination of consistently positive and partially positive results (54.6%), it also had the largest proportion of training groups that had partially negative or consistently negative results (12.2%). This is in contrast to *cross-cultural behavioural skills* which had the third largest proportion of consistent positive results alone (40%), with no partially negative or consistent negative results. *Cross-cultural affective adjustment* had the smallest amount of consistent positive results (33.3%).

*****Insert Table 2 here*****

Academic and career related performance had the largest mean d of 1.95 (very large effect; Cohen 1988), calculated from 10 out of 13 studies across 28 variables. This is consistent with the frequency data. *Cross-cultural behavioural interaction skills* had the second largest mean d of 1.16 (very large effect; Cohen, 1988), calculated from seven out of 10 training groups across 20 variables. *Cross-cultural knowledge* had a mean d of 0.58 (medium effect; Cohen, 1988), calculated from 11 out of 16 training groups across 12 variables. *Cross-cultural cognitive adjustment and attitude* had a mean d of 0.42 (small to medium effect; Cohen, 1988), based on 18 out of 33 training groups across 32 variables. Consistent with frequency data, *Cross-cultural affective adjustment* had the smallest mean d of 0.36 (small effect; Cohen, 1988), obtained from 10 out of 12 training groups across 16 variables.

Overall, taking into consideration both the proportion of studies with significant positive outcomes and the mean effect sizes, CCT was generally effective in enhancing various target outcomes. Specifically, it appeared to be most effective in enhancing students' *academic and career related performances*. CCT also appeared to be effective in enhancing students' *cross-cultural behavioural skills* and *cross-cultural knowledge*. CCT appeared to

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have the least effect on tertiary students' *cross-cultural cognitive adjustment and attitude* and *cross-cultural affective adjustment*.

Discussion

Despite cultural competence being an often stated learning goal for tertiary students especially those undertaking professional training courses, there is a lack of theory guided and evidence-based CCT implementation and evaluation in tertiary education. Therefore, this review aimed to investigate the effectiveness of CCT in tertiary education, within the context of a comprehensive psychological theory of cross-cultural adjustment - the ABC model (Ward et al., 2001).

Methods of Delivery in Cross-cultural Training

Recent CCT programs appeared to have shifted towards more experiential and multi-methods in training participants to be more cross-culturally effective. Role plays and individual or groups exercises were among the most common training methods. This contrasts with the reviews conducted by Bhawuk and Brislin (2000) and Mendenhall et al. (2004), in which culture assimilator was one of the most widely used training methods. In terms of the number of training methods, approximately half of training programs in Mendenhall et al.'s (2004) review comprised three or more training methods. In the current review, nearly two-thirds of training programs were comprised of three or more training methods.

An increasing number of CCT evaluation studies have investigated whether, variation in the delivery methods, with the same content coverage, would affect training outcome. Specifically, Goldstein and Smith (1999) found that a difference between program formats did not affect training outcome. Similarly, Tarique and Caligiuri (2009) found that with the same content, whether CCT was delivered continuously in one session or in two sessions over a period of four weeks, did not differ significantly in training outcome. However, the

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trend of their data suggested that CCT was more effective when training was distributed over time (Tarique & Caligiuri, 2009). In summary, it is evident that researchers have begun to investigate how variation in delivery methods and program formats could be delivered to improve the desired training outcome, rather than treating CCT as one generic intervention.

Effectiveness of Different Types of Cross-cultural Training and Specific Outcomes

This review found that CCT that used both cognitive change and behavioural modification was more effective than CCT that used cognitive-alone or didactic-alone components. This is consistent with the ABC model, in which successful acculturation is a robust process encompassing affective, behavioural, and cognitive change (Ward et al., 2001). Therefore, CCT that actively and comprehensively targets all these domains is more likely to be successful in improving participants' cross-cultural adjustment compared to those that target only one individual element of change.

Similar to Black and Mendenhall (1990) and Kealey and Protheroe's (1996) conclusions, we found that the benefits of CCT depend on the type of outcome variable in question. In the current review, CCT programs were generally effective in increasing cross-cultural knowledge and inducing behavioural adjustment among tertiary students, but less effective in facilitating cross-cultural cognitive and emotional adjustment. This is consistent with Ward et al.'s (2001) assertion that while trainees are usually willing to acquire new knowledge and functional skills that enable them to succeed in a new cultural environment, their attitudes, values, and affect are more resistant to change.

A notable finding in this review is that CCT has the largest positive impact on tertiary students' academic achievement and career preparations. Our results indicated that CCT improved students' general knowledge and attitude towards working in multi-cultural health practices (Lim, Wegelin, Hua, Kramer, & Servis, 2008). Specifically, it improved trainee counsellors' ability to work effectively with clients from diverse cultural backgrounds

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(Castillo et al., 2007; D'Andrea et al., 1991; Diaz-Lazaro & Cohen, 2001; Dickson, Argus-Calvo, & Tafoya, 2010; Green, Barden, Richardson, & Hall, 2014). CCT also increased the competency of medical students in conducting clinical interviews and communicating with patients and families with foreign cultural backgrounds (Rosen et al., 2004). For international students in general, CCT helped improve their general knowledge of respective universities (Tarique & Caligiuri, 2009) and improve their overall academic performances (Westwood & Barker, 1990; Young & Schartner, 2014). These findings reflected the learning benefits associated with quality intercultural contact among tertiary students. Increased multicultural competence appeared to positively influence students' academic performance and preparation for potentially multicultural careers.

Methodological Limitations of the Studies Reviewed

We have noted various methodological limitations among the studies reviewed. Many of the included studies had small sample sizes (e.g., Altschuler et al., 2003; D'Andrea et al., 1991; Diaz-Lazaro & Cohen, 2001). Other limitations were the lack of control groups (e.g., Brown, Parham, & Yonker, 1996; Rosen et al., 2004), lack of standardised scales in measuring outcome variables (e.g., Lim et al., 2008), and lack of follow-up (e.g., Aguilera & Li, 2009; Castillo et al., 2007; Klinge et al., 2009). Such limitations were also noted in previous CCT reviews (e.g. Black & Mendenhall, 1990; Despande & Viswesvaran, 1992; Kealey & Protheror, 1996).

Similar to reviews conducted by Kealey and Protheror (1996) and Kulik and Roberson (2008), another limitation with most of the current reviewed studies was their sole reliance on participants' self-report as a measure of change in cross-cultural adjustment. This was particularly problematic for some CCT evaluations where researchers also took part in facilitating the training (e.g., Castillo et al., 2007; D'Andrea et al., 1991; Diaz-Lazaro & Cohen, 2001).

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Practical Implications for Cross-cultural Training

The current review has several implications for designing and evaluating CCT. The consistent effectiveness of cognitive-behavioural CCT programs regardless of their delivery in tertiary education or business environments highlights the importance of experiential learning and behavioural modification skills training components within CCT. An important part of cross-cultural adjustment stems from individuals' competency in identifying culturally appropriate behaviours, and subsequently their ability to execute these behaviours.

According to Ward et al's (2001) ABC model, cognitive cultural sensitivity and awareness in conjunction with cross-cultural behavioural social skills allows sojourners to develop higher self-efficacy and persistence in executing culturally appropriate behaviours.

Cross-cultural adjustment is an active process that requires rigorous skills acquisition. Cognitive awareness alone regarding cross-cultural differences or the need for behavioural change does not necessarily guarantee the ability to engage in culturally appropriate behaviours. Interestingly, one of the included studies found that using a cognitive component alone in CCT increased student participants' ethnocentrism (Bruschke et al., 1993). The use of simulation games alone in their study increased participants' negative feelings about intercultural experiences as the activity induced cultural confusion and disorientation rather than adjustment. Qualitative data from cognitive only programs suggested that participants consistently identified the lack of behavioural cross-cultural skill practice as a barrier towards achieving multicultural competence (Daiz-Lazaro & Cohen, 2001). On the other hand, participants in behavioural skills training programs often commented on the need to increase the amount of skills practice during training (e.g., Dickson et al., 2010). While current CCT programs often involve a cognitive component, the use of behavioural modification training is limited due to its costly and time consuming nature, despite its theoretical rigor and practical significance (Bhawuk & Brislin, 2000; Kulik & Roberson, 2008). Hence, the

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development of CCT programs should move towards investigating the optimal balance between cognitive and behavioural training components, and how this predicts sojourners' psychological wellbeing and satisfaction during the process of acculturation.

It is also important to tailor CCT according to the training needs of specific cohorts (Littrell & Salas, 2005). Many of the included studies recruited samples at advanced levels of tertiary education, such as medical, counselling, and post-graduate students (e.g., Castillo et al., 2007; Goldstein & Smith, 1999; Westwood & Barker, 1990). Most of these students could be assumed to possess a high level of host language proficiency. Results from these studies may not apply to cohorts of younger international students new to a host country or those enrolled in vocational educational courses. As language barriers are a significant factor in positive cross-cultural adjustment for many of these students, further research is needed to not only compare the effectiveness of CCT between diverse tertiary student cohorts but also on tailoring training to address the needs of students with relatively low levels of host language proficiency. None of the studies in this review examined student participants' language proficiency. While the incorporation of both cognitive and behavioural components appears to be important, perhaps programs involving a larger behavioural skills training component such as those evaluated in Mak and Buckingham (2007) would be more appropriate for tertiary students with a somewhat lower level of host language proficiency. This group of students is likely to struggle with understanding and comprehension of abstract cognitive concepts (e.g., acculturation theories and constructs) owing to their lower level of host language proficiency. However, for students with relatively fluent host language proficiency, a balance of cognitive and behavioural components in CCT may be more important.

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Limitations of this Review and Directions for Future Research

This review has two main deficits. Firstly, this review focused on quantitative outcomes in accepted studies. There is a need for future CCT reviews to also examine qualitative data reported in evaluation studies. Focusing on quantitative evaluation alone was not sufficient to explain the process or the reason why certain CCT programs were effective, especially when most of the programs included in this review were not theory-based. Also, qualitative data in CCT evaluation studies would provide researchers with an understanding of the effectiveness of particular training methods, unexpected benefits, and any concerns regarding these programs (Dickson et al., 2010). In Pruegger and Roger's (1994) CCT evaluation, a culture simulation method was compared to a traditional lecture presentation. Although the quantitative data suggested no difference between the two methods in enhancing cultural sensitivity, their qualitative data suggested marked positive attitude change and preference for the simulation exercise. This raises the issue of using appropriate evaluation methods for training programs, and that survey analysis alone may not detect complex cognitive and affective changes through unique training experiences.

Another deficit of this review is that its conclusions were directly deduced from frequency counting of whether included studies had statistically significant results. This process could potentially inflate the success of certain types of CCT and outcomes, especially given that some categories had very few CCT groups. For example, there were 30 cognitive-based CCT groups but only two behavioural-based CCT groups in this review. A lack of included studies could be due to problems with search terms in this review. With more CCT evaluation studies in the future, a meta-analysis approach such as those conducted by Deshpande and Viswesvaran (1992) and Kealey Protheroe (1996) would be recommended over a frequency counting approach.

Conclusion

This review contributes to the existing literature on the effectiveness of CCT by categorising CCT and its outcomes based on a theoretical model on cross-cultural adjustment. Overall, we found evidence to support the effectiveness and usefulness of CCT in tertiary education. Notably, we found that CCT was particularly effective in enhancing tertiary students' academic and career-related performances. This suggests that, in addressing the strategic agenda of internationalising tertiary education, there are justifications for CCT to be incorporated into the academic curricula for tertiary students (Mak & Buckingham, 2007) and as a part of professional development for tertiary educators to enable the design and implementation of such curricular changes (Mak & Barker, 2013).

While CCT encompassing behavioural modification skills training is particularly valuable, incorporation of cultural awareness and sensitivity training makes CCT comprehensive and holistic. Practitioners and researchers have begun to view CCT as a dynamic multi-method psychosocial intervention rather than a generic activity. Much further research is needed to investigate the optimal balance between cognitive and behavioural components within CCT and how this may be tailored to meet the unique needs of trainees, including as part of the formal curriculum in tertiary education.

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Appendix

Summary of Cross-Cultural Training Intervention Studies with Tertiary Students Participants

Author (year)	Training characteristics		Intervention sample characteristics <i>N</i> , academic level, cultural background	Study design Control group, <i>N</i> / Pre-post testing	Nature of data	Key outcome measures	Results		
	Training type	Training duration					<i>d</i>	<i>p</i>	*/NS/X
Aguilera & Li, 2009 ¹	Behavioural	10 to 15 minutes	40, UG/PG, mixed	Control group, 40	Self-report	Listen Recall	1.77	< .001	*
						Grounding Skills	1.77	< .001	*
						Speaker's Presentation	1.25	.001	*
Altschuler et al., 2003 ²	Cognitive-behavioural	4 hours	10, UG, mixed	Control group, 6	Feedback from staff and peer observers	Intercultural Sensitivity	-	-	NS
	Behavioural	4 hours	8, UG, mixed	Control group, 6	Self-report and feedback from staff and peer observers	Intercultural Sensitivity	-	-	NS
Bhawuk, 1998 ³	Cognitive	-	25, -, FS	Control group, 25	Self-report and observer rating	Making Correct Cross-cultural Attributions	-	-	NS
						Recall of Training Content	-	-	NS
						Behavioural Interaction Skills	-	-	NS
						Intercultural Sensitivity	0.98	.050	*
	Cognitive	-	25, -, FS	Control group, 25	Self-report and observer rating	Category Width	-	.050	*
						Making Correct Cross-cultural Attributions	-	-	NS
						Recall of Training Content	-	-	NS
						Behavioural Interaction Skills	-	-	NS
						Intercultural Sensitivity	0.66	.010	*
						Category Width	-	.050	X

	Cognitive	-	25, -, FS	Control group, 25	Self-report and observer rating	Making Correct Cross-cultural Attributions	0.75	< .001	*
						Recall of Training Content	-	-	NS
						Behavioural Interaction Skills	-	-	NS
						Intercultural Sensitivity	-	-	NS
						Category Width	-	< .001	X
Brown et al., 1996 ⁴	Cognitive-behavioural	16 weeks	35, PG, DS	Pre-post testing	Self-report	White Racial Identity Attitude: Contact	-	.860	NS
						White Racial Identity Attitude: Disintegration	-	.410	NS
						White Racial Identity Attitude: Reintegration	-	.770	NS
						White Racial Identity Attitude: Pseudo-independence	-	< .001	*
						White Racial Identity Attitude: Autonomy	-	.030	*
Bruschke et al., 1993 ⁵	Cognitive	-	92, UG/PG, mixed	Control group, 88	Self-report	Knowledge of Other Cultures	-	-	NS
	Didactic	-	94, UG/PG, mixed	Control group, 88	Self-report	Dogmatism and Ethnocentrism	-	-	*
	Didactic	-	92, UG/PG, mixed	Control group, 88	Self-report	Knowledge of Other Cultures	-	-	NS
						Dogmatism and Ethnocentrism	-	-	X
Castillo et al., 2007 ⁶	Cognitive	15 weeks	40, PG, mixed	Control group, 44	Self-report	Multicultural Cultural Counselling Awareness	0.23	< .010	*
						Multicultural Counselling Knowledge	-0.65	.690	NS
						Multicultural Counselling Skills	-0.42	.820	NS
						Implicit Racial Prejudice	0.27	< .010	*
D'Andrea et al., 1991 ^{7A}	Cognitive-behavioural	15 weeks	20, PG, FS	Control group, 15	Self-report	Multicultural Counselling Awareness	3.52	< .001	*
						Multicultural Counselling Knowledge	4.12	< .001	*
						Multicultural Counselling Skills	9.29	< .001	*

D'Andrea et al., 1991 ^{7B}	Cognitive-behavioural	6 weeks	19, PG, FS	Control group, 11	Self-report	Multicultural Counselling Awareness	4.09	< .001	*
						Multicultural Counselling Knowledge	1.94	< .001	*
						Multicultural Counselling Skills	4.36	.016	*
D'Andrea et al., 1991 ^{7C}	Cognitive-behavioural	3 weeks	27, PG, DS	Pre-post testing	Self-report	Multicultural Counselling Awareness	2.30	< .001	*
						Multicultural Counselling Knowledge	0.50	< .001	*
						Multicultural Counselling Skills	6.60	.009	*
Diaz-Lazaro & Cohen, 2001 ⁸	Cognitive	12 weeks	Pre-test = 15, post-test = 13, PG, mixed	Pre-post testing	Self-report	Multicultural Counselling Awareness	0.26	-	NS
						Multicultural Counselling Knowledge	0.98	< .010	*
						Multicultural Counselling Skill	0.90	< .010	*
Dickson et al., 2010 ⁹	Cognitive	15 weeks	41, PG, FS	Control group, 19	Self-report	Multicultural Counselling Knowledge	3.17	< .010	*
						Multicultural Counselling Awareness	2.17	< .010	*
						Multicultural Counselling Skills	2.20	< .010	*
						Affective Racial Attitudes	-	-	NS
						Cognitive Racial Attitudes	1.18	< .010	*
Eisenberg et al., 2013 ^{10A}	Cognitive	2 half days	289, UG, mixed	Pre-post testing	Self-report	Cognitive Cultural Intelligence	0.43	.001	*
						Behavioural Cultural Intelligence	0.11	-	NS
						Motivational Cultural Intelligence	-0.21	.001	X
						Metacognitive Cultural Intelligence	0.43	.001	*
						Cognitive Cultural Intelligence	0.26	<.010	*
Eisenberg et al., 2013 ^{10B}	Cognitive	Between 1 to 12 weeks	150, PG, mixed	Pre-post testing	Self-report	Behavioural Cultural Intelligence	0.14	-	NS
						Motivational Cultural Intelligence	0.25	< .010	*
						Metacognitive Cultural Intelligence	0.44	< .001	*
						Metacognitive Cultural Intelligence	0.44	< .001	*

Fischer, 2011 ¹¹	Cognitive-behavioural	4 weeks	49, UG, mixed.	Pre-post testing	Self-report	Culture Essentialism	0.61	< .050	*
						Cognitive Cultural Intelligence	-0.28	< .050	X
						Meta-cognitive Cultural Intelligence	0.55	.068	NS
						Motivational Cultural Intelligence	-0.04	-	NS
Gannon & Poon, 1997 ¹²	Cognitive	3 hours	34, PG, mixed	Pre-post testing	Self-report	Behavioural Cultural Intelligence	0.14	-	NS
						Perceived Cultural Competence	0.24	.040	*
						Cultural Interest	0.11	-	NS
	Cognitive	3 hours	32, PG, mixed	Pre-post testing	Self-report	Awareness of Cultural Differences	0.21	-	NS
						Perceived Cultural Competence	0.15	.030	*
						Cultural Interest	0.20	.004	*
	Cognitive	3 hours	39, PG, mixed	Pre-post testing	Self-report	Awareness of Cultural Differences	0.31	.030	*
						Perceived Cultural Competence	0.24	-	NS
						Cultural Interest	0.22	.020	*
Goldstein & Smith, 1999 ¹³	Cognitive	1 week	42, PG, FS	Control group, 39, self-report	Self-report	Awareness of Cultural Differences	0.49	.003	*
						Cross-Cultural Adaptability	0.80	< .001	*
Greene et al., 2014 ¹⁴	Cognitive	Over an academic semester	30, PG, mixed	Pre-post testing	Self-report	Multicultural Counselling Self-efficacy	1.61	< .001	*
						Multicultural Counselling Competence	1.68	< .010	*
Klinge et al., 2009 ^{15A}	Cognitive	85 minutes	33, UG, -	Control groups, 41, 33	Self-report	Ability to Adopt Intercultural Perspective	1.15	< .001	*
						Intercultural Awareness	1.36	< .001	*
						Intercultural Interest	0.23	< .010	*
						Approval of Cultural Diversity	-0.16	-	NS

Klinge et al., 2009 ^{15B}	Cognitive	85 minutes	22, UG, -	Pre-post testing	Self-report	Intergroup Anxiety	0.30	-	NS
						Intercultural Awareness	1.10	< .001	*
	Cognitive	100 minutes	24, UG, -	Pre-post testing	Self-report	Approval of Cultural Diversity	0.04	-	NS
						Intergroup Anxiety	0.14	-	NS
Lim et al., 2008 ¹⁶	Cognitive	2 hours	63, UG, mixed	Pre-post testing	Self-report	Intercultural Awareness	0.82	< .001	*
						Approval of Cultural Diversity	-0.26	-	NS
						Change in Attitude Towards Cross-Cultural Health Practice	-	< .050	*
						Change in Knowledge Towards Cross-Cultural Health Practice	-	< .050	*
MacNab, 2012 ¹⁷	Cognitive	8 weeks	373, UG/PG, mixed	Pre-post testing	Self-report	Behavioural Cultural Intelligence	1.65	< .001	*
						Motivational Cultural Intelligence	1.31	< .001	*
						Metacognitive Cultural Intelligence	1.88	< .001	*
						Seeking Help or Information	1.61	< .001	*
Maganlal et al., 2012 ¹⁸	Cognitive- behavioural	7 weeks	112, UG, mixed	Pre-post testing	Self-report	Making Social Contact and Conversation	1.22	< .001	*
						Participating in Groups	1.31	< .001	*
						Expressing Disagreement	1.26	< .001	*
						Refusing a Request	1.22	< .001	*
						Giving Feedback	5.02	< .001	*
						Interpersonal Skills Checklist- Processing Skills	0.76	< .001	*
						Interpersonal Skills Checklist- Active Engagement skills	0.57	< .001	*
						Interpersonal Skills Checklist- Self-enhancing Skills	0.91	< .001	*
						Interpersonal Skills Checklist- Approaching Skills	0.76	< .001	*
						Interpersonal Skills Checklist- Assertive Skills	0.77	< .001	*
						Interpersonal Skills Checklist- Interruption Skills	0.50	.001	*

						Cross Ethnic Social Self-efficacy- Social Confidence	0.29	.043	*				
						Cross Ethnic Social Self-efficacy- Sharing Interests	0.28	.048	*				
Mak & Buckingham, 2007 ¹⁹	Cognitive-behavioural	6 weeks	26, UG, mixed	Control group, 116	Self-report	Interaction Skills	0.39	.001	*				
Pruegger & Rogers, 1994 ²⁰	Cognitive	2 hours	32, UG, -	Control group, 18	Self-report	Cross-ethnic Social Self-efficacy	0.12	.059	NS				
						Cross-cultural Sensitivity	-	-	NS				
	Didactic	2 hours	17, UG, -	Control group, 18	Self-report	Cross-cultural Sensitivity	-	-	NS				
Rosen et al., 2004 ²¹	Cognitive-behavioural	1.5 days	28, UG, -	Pre-post testing	Self-report	Conducting Health-Belief Assessment	-	≤ .050	*				
						Conducting Sexual History Taking	-	≤ .050	*				
						Breaking Bad News to Patients	-	≤ .001	*				
						Effective Communication to Approach to Treatment	-	≤ .001	*				
						Communication with Patient's Family Members	-	-	NS				
						Biopsychosocial Interviewing Skills	-	≤ .050	*				
						Working with the Interpreter	-	-	NS				
Sakurai, McCall-Wolf, & Kashima, 2010 ²²	Cognitive	-	47, UG/PG, FS	Control group, 51	Self-report	Adjustment Strain	-	-	NS				
						Local Culture Orientation	-	-	NS				
Sizoo & Serrie, 2004 ²³	Cognitive	3 weeks	Pre-test = 19; post-test = 18, UG, DS	Control group, 20	Self-report	Intercultural Sensitivity	-	< .001	*				
						Intercultural Sensitivity	-	.855	NS				
	Didactic	3 weeks	Pre-test = 23; post-test = 22, UG, DS	Control group, 20	Self-report	Intercultural Sensitivity	-	.855	NS				
	Didactic	3 weeks	Pre-test = 26;	Control	Self-report	Intercultural Sensitivity	-	.594	NS				

Author(s) & Year	Intervention	Duration	Sample Size & Characteristics	Control Group	Measurement	Outcome	Effect Size	Significance	Notes	
Sizoo, Serrie, & Shapero, 2007 ²⁴	Cognitive	Over an academic semester	post-test = 24, UG, FS 91, -, DS	group, 20	Pre-post testing	Self-report	Intercultural Sensitivity	-	< .001	*
Soble, Spanierman, & Liao, 2011 ²⁵	Cognitive	20 minutes	90, UG, DS	Control group, 48	Self-report	White Empathy	0.41	< .050	*	
						White Guilt	0.41	< .050	*	
						White Fear	0.35	.070	NS	
						Colour-blind Racial Attitude	0.84	< .001	*	
						Cognitive Racial Prejudice	0.29	.080	NS	
						Affective Racial Attitudes	0.13	.490	NS	
Tarique & Caligirui, 2009 ²⁶	Cognitive	4 hours	24, PG, FS	Control group, 16	Self-report	Culture Specific Knowledge	0.80	< .100	*	
						Culture General Knowledge	0.78	< .100	*	
						Work Specific Knowledge	1	< .050	*	
						Work Adjustment	0.11, 0.67	-	NS	
						General Adjustment	0.71, 0.44	-	NS	
						Interaction Adjustment	0.22, 0.43	-	NS	
Vezzali et al., 2015 ^{27A}	Cognitive	-	20, -, FS	Control group, 20	Self-report	Self-disclosure Toward the Outgroup	0.64	.049	*	
						Outgroup Evaluation	0.84	.011	*	
Vezzali et al., 2015 ^{27B}	Cognitive	-	18, -, DS	Control group, 19	Self-report	Intergroup Anxiety	0.68	.051	NS	
						Outgroup Evaluation	0.01	.976	NS	
						Time Spent with the Outgroup	0.11	.755	NS	
Westwood & Barker, 1990 ^{28A}	Cognitive	8 months	97, UG, FS	Control group, 97	Academic transcripts and academic dropout rates	Year-end Academic Achievement Rates	1.06, 0.89, 1.38	< .001, < .010	*	
						Academic Drop-out Rate	-	-	*	

Westwood & Barker, 1990 ^{28B}	Cognitive	8 months	24, PG, FS	Control group, 23	Self-report and academic dropout rates	Academic Dropout Rate	-	-	*
						Companion Check List	-	-	NS
Young & Schartner, 2014 ²⁹	Cognitive	An academic year	352, PG, FS	Control group, 328	Academic records and quality of assessment items	Taught Component	0.24	.013	*
						Research Component	0.80	-	NS
						Overall Degree GPA	0.16	.076	NS

Note. Superscripts refer to the corresponding studies listed in the References. Only key variables were included in this table. * = statistically significant positive results at $p \leq .05$; X = statistically significant negative results; NS = statistically non-significant results; - = not reported; UG = undergraduate students; PG = postgraduate students; UG/PG = mix of undergraduate and postgraduate students; DS = domestic students; FS = students with foreign cultural backgrounds; Mixed = mix of domestic and foreign students.

Table 1

Summary of Outcomes for the Four Types of Cross-cultural Training Programs with Tertiary Education Students

Training type	Number of training groups	Study Outcome (Number of Training Groups)					
		Significant positive results	Partially significant positive results	Non-significant results	Partially significant negative results	Significant negative results	Mix of all three types of results
Didactic sessions	5	-	-	3 (60%) 20,23	2 (40%) 5	-	-
Cognitive-based programs	30	9 (30%) 12,13,14,16,17,23,2 4,27A,28A	15 (50%) 3,5,6,8,9,10B,12,15 A,15B,25,26,28B,2 9	3 (10%) 20,22,27B	-	-	3 (10%) 3,10A
Behavioural-based programs	2	1 (50%) 1	-	1 (50%) 2	-	-	-
Cognitive-behavioural programs	9	4 (44.4%) 7A,7B,7C,18	3 (33.3%) 4,19,21	1 (11.1%) 2	-	-	1 (11.1%) 11
Total number of training groups	46	14 (30.4%)	18 (39.1%)	8 (17.4%)	2 (4.3%)	-	4 (8.7%)

Note. Superscripts refer to studies summarised in the Appendix, with the corresponding publications listed in the References.

Table 2

Summary of Study Results According to the Five Categories of Cross-culturally Related Outcome Variables

Outcome category	Number of training groups	Study Outcomes (Number of Training Groups)				
		Significant positive results	Partially significant positive results	Non-significant results	Partially significant negative results	Significant negative results
CC affective adjustment	12	4 (33.3%) 10B,17,18,27A	1 (8.3%) 25	6 (50%) 9,11,22,15B,27B	-	1 (8.3%) 10A
CC behavioural interaction skills	10	4 (40%) 1,17,18,19	-	6 (60%) 3,10A,10B,11	-	-
CC knowledge	16	8 (50%) 10A,10B,12,15A,15B,26	1 (6.2%) 3	6 (37.5%) 3,5,12	-	1 (6.2%) 11
CC cognitive adjustment and attitude	33	12 (36.4%) 3,5,6,9,10A,10B,12,13,17 ,22,23,24	6 (18.2%) 4,11,12,15A,25	11 (33.3%) 2,15B,19, 20,23,26, 28B	2 (6.1%) 3	2 (6.1%) 5
Academic and career related performance	13	8 (61.5%) 9,7A,7B,7C,14,16,28A,28 B	5 (38.5%) 6,8,21,26,29	-	-	-

Note. Superscripts refer to studies summarised in the Appendix, with the corresponding publications listed in the References. CC = Cross-cultural.

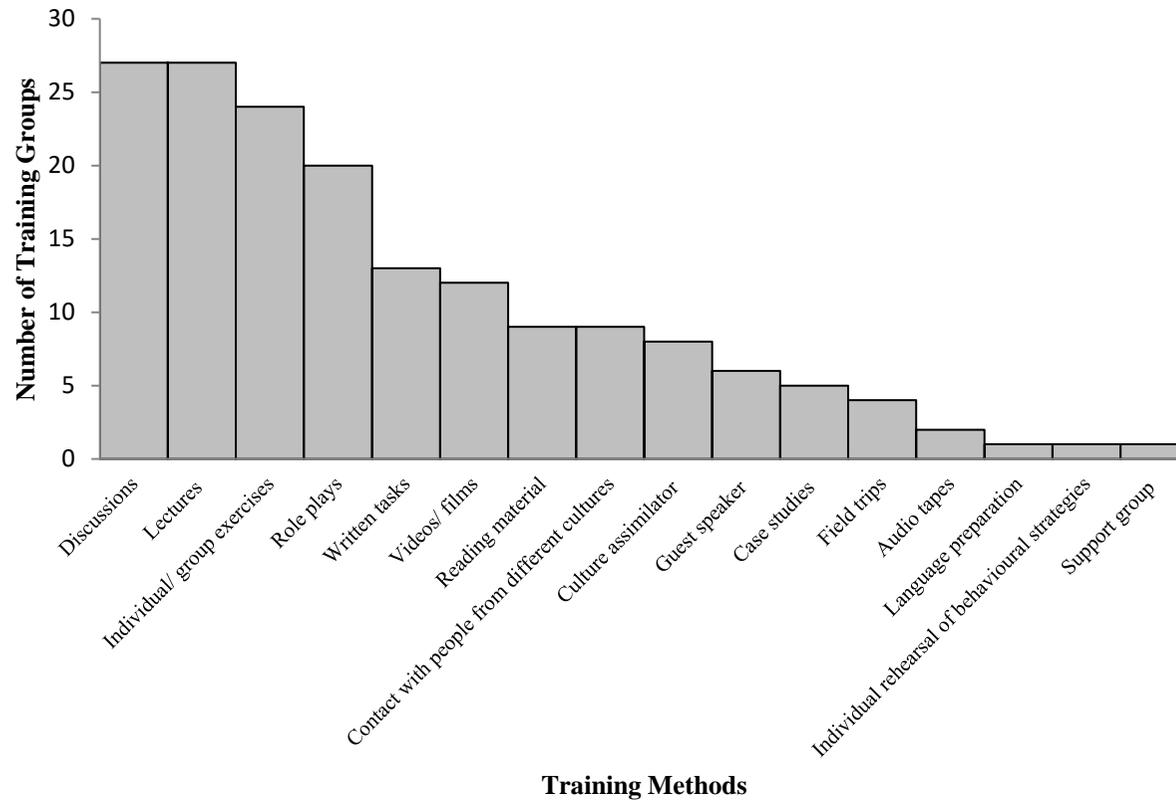


Figure 1. Frequencies of training methods utilised in cross-cultural training groups.