



Higher Education Research and Development Society of Australasia, Inc

The Student Experience

Proceedings of the

32nd HERDSA Annual Conference

6-9 July 2009

Darwin, Australia

Denson, N., Dalton, H. & Zhang, S. (2009) The impact of student experiences with diversity on developing graduate attributes, in *The Student Experience, Proceedings of the 32nd HERDSA Annual Conference, Darwin, 6-9 July 2009: pp 121-130.*

Published 2009 by the
Higher Education Research and Development Society of Australasia, Inc
PO Box 27, Milperra, NSW 2214, Australia
www.herdsa.org.au

ISSN: 0155 6223
ISBN: 0 908557 78 7

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The impact of student experiences with diversity on developing graduate attributes

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Past research has shown that culturally diverse universities tend to create richly varied educational experiences that help students learn and prepare them for participation in an increasingly diverse workforce and society, whereas more homogenous universities do not. However, student body composition is an insufficient condition in itself for maximizing educational benefits; rather, its value depends on whether or not universities encourage students to engage in diversity-related activities. Such purposeful programmatic efforts include exposing students to diversity through the curriculum and/or providing students with opportunities to interact with diverse peers. While the emerging body of international research suggests that students' experiences with diversity tends to impact positively on student learning and their preparation for entering a diverse workforce, no similar research is available in relation to students in Australian universities. Many of these outcomes, such as problem-solving, ability to work with others, and appreciation of and respect for diversity, are attributes that most – if not all – Australian universities value and work hard to instil in their graduates. This study explored whether student experiences with diversity impacts on the development of selected graduate attributes and whether this relationship differs between international and local students at one Group of Eight (GO8) university. The findings demonstrate that student experiences with diversity positively impacts on problem-solving, ability to work with others, and appreciation of and respect for diversity. The magnitude of these relationships, however, differs between international and local students.

Keywords: student diversity, diversity engagement, graduate attributes.

Introduction and background

Australia's population of over 21 million people is one of the most culturally diverse in the world today. Twenty-four percent of the population in Australia were born overseas (Australian Bureau of Statistics, 2008a). Even among those who are Australian born, 26% reported having at least one parent born overseas (Australian Bureau of Statistics, 2008a). Given these statistics, it is no surprise that there are over 200 different languages spoken in Australia today, reflecting the richness of our cultural diversity (Australian Bureau of Statistics, 2008b). However, while Australia is becoming increasingly diverse, generally, integration across cultures is often lacking (Marginson, 2002). Such diversity is also reflected in our higher education student population where 27% are international students (Australian Government, Department of Education, Employment and Workplace Relations, 2008). Hence,

Australian universities are in a unique position to encourage interaction amongst students, the next generation of citizens.

Gurin, Dey, Hurtado, and Gurin (2002) argue that, at a campus with a more diverse student body, students are more likely to encounter unfamiliar situations and diverse opinions. These situations, according to Gurin et al. (2002), initiate the mental processes of “accommodating” and “assimilating” new information (Piaget, 1975/1985). This processing of new information or experience positively affects students’ learning and cognitive growth. Thus, when there are more opportunities to engage in different experiences, there is greater potential for learning (Gurin et al., 2002). According to Erikson’s (1946, 1956) notion of “psychosocial moratorium,” exposure to diversity is most impactful for undergraduate students as they are at a developmental stage where they are free to explore new ideas, social roles, and relationships. During this developmental period, exposure to surroundings different from students’ home environment increases potential for deep learning and critical thinking.

There is an emerging body of international research (mainly from the United States) that has shown that culturally diverse universities tend to create richly varied educational experiences that help students learn and prepare them for participation in an increasingly diverse workforce and society, whereas more homogenous universities do not (e.g., Astin, 1993; Bowen & Bok, 1998; Gurin et al., 2002). Other empirical studies suggest that student body composition is an insufficient condition in itself for maximizing educational benefits; rather, its value depends on whether or not universities encourage students to engage in diversity-related activities. Such purposeful programmatic efforts include providing students with opportunities to interact with diverse peers (Chang, 2001; Gurin, 1999).

Engagement with such diversity-related activities has been shown to be positively associated with a variety of outcomes such as intergroup attitudes (Lopez, 2004); prejudice (Chang, 2002; Denson, in press); intergroup understanding (Chang, 2002; Chang, Denson, Saenz, & Misa, 2006); intercultural competence (Treleaven et al., 2007); cognitive development (Chang et al., 2006); critical thinking skills (Nelson Laird, 2005); cultural knowledge and understanding and leadership skills (Antonio, 2001); learning and democratic outcomes (Denson & Chang, in press; Gurin et al. 2002); civic, job-related, and learning outcomes (Hurtado, 2001); self-confidence (Chang, Astin, & Kim, 2004; Chang et al., 2006; Nelson Laird, 2005); social agency (Nelson Laird, 2005); social action engagement outcomes (Nelson Laird, Engberg, & Hurtado, 2005); action-oriented democratic outcomes (Zúñiga, Williams, & Berger, 2005); student retention (Chang et al., 2004); and student satisfaction with their overall university experience (Chang, 2001). Many of these outcomes, such as problem-solving, ability to work with others, and appreciation of and respect for diversity, are attributes that most – if not all – Australian universities value and work hard to instil in their graduates.

Purpose of study

Although there is growing international research that suggests students’ experiences with diversity tends to impact positively on student learning and their preparation for entering a diverse workforce, no similar research is available in relation to students in Australian universities. This study explored whether student experiences with diversity (e.g., through the curriculum and informal interactions) impacts on the development of selected graduate attributes and whether this relationship differs between international and local students at one Group of Eight (GO8) university.

Methodology

Conceptual framework

The conceptual framework used to guide our study is Astin's (1991) Input-Environment-Outcome (IEO) model of college impact. The IEO model posits causal relationships among three types of variables: inputs (demographic characteristics and background characteristics that students bring with them to college), environments (college experiences and environments that students encounter during college), and outcomes (student outcomes at the end of college). This model conceptualizes student outcomes as a function of both inputs and environments. While the inputs are presumed to affect outcomes directly, they are also expected to affect outcomes indirectly through the ways in which students engage with their environments. Thus, while the main focus is on college impact, this model adjusts for the confounding effect of students' precollege characteristics in examining the impact of college – for example, perceptions of institutional culture and college experiences – on student outcomes.

Sample

The data for this study was collected as part of the annual student survey administered at the University of New South Wales (UNSW). In spring 2007, undergraduate and postgraduate coursework students were asked to complete an online survey to provide feedback about their experiences at UNSW. Of the 41,860 enrolled students eligible to complete the survey, 5,464 students responded to the survey, representing a 13% response rate. The number of respondents exceeds the minimum sample size required to be considered representative of the total population (i.e., 1,771 students for a confidence level of 99% and margin of error $\pm 3\%$). The survey respondents and student population overall were compared on key demographic characteristics and confirmed the representativeness of the sample. Table 1 presents selected demographic characteristics for the student survey respondents.

Table 1: Student demographic characteristics

	N	Percent
<i>Gender</i>		
Female	2835	52%
Male	2629	48%
<i>Program Level</i>		
Undergraduate	4378	80%
Postgraduate coursework	1086	20%
<i>Full-time/Part-time</i>		
Full-time	3968	73%
Part-time	1496	27%
<i>Citizenship</i>		
International	1026	19%
Local	4438	81%
<i>English speaking background</i>		
NESB	2543	47%
Non-NESB	2921	54%
<i>First in family to attend university</i>		
Yes	2203	40%
No	3526	60%
Total	5464	100%

Variables

The student survey consists of both open-ended and close-ended questions and provides the University with information that informs planning and quality improvement processes and potentially provides an internal benchmark of students' experiences. The survey instrument was adapted from the American National Survey of Student Engagement (NSSE) which asks students about their behaviour as students, and their attitudes towards various aspects of their experience. The independent variables of interest included items which asked students about: 1) their perceptions of institutional culture, and 2) their diversity learning experiences. Student perceptions about their institutional culture asked students to "Please indicate to what extent you agree with the following statements" and are as follows (5 point scale: From 1 = strongly disagree to 5 = strongly agree):

- the campus is a good place to be
- UNSW provides an environment for students that is free from prejudice and discrimination.

The diversity learning experiences asked students "In your experience at UNSW during the current academic year, about how often have you done each of the following?" and are as follows (4 point scale: from 1 = never, to 4 = very often):

- been exposed to diverse perspectives (different cultural groups, religions, genders, political beliefs, etc.) in class discussions or assignments
- had meaningful conversations with students of a different cultural group or ethnicity other than your own
- had meaningful conversations with students who are very different from you in terms of their religious beliefs, political opinions or personal values.

The dependent variables of interest included items which asked students "Thinking about your major area of study or discipline, how much has your experience at UNSW throughout your degree contributed to the development of the following skills and outcomes?" and are as follows (5-point scale; from 1 = neutral, to 5 = very much):

- teamwork ($\alpha = .83$)
 - working effectively with others
 - leadership skills.
- Problem-solving ($\alpha = .85$)
 - critical thinking skills
 - confidence in tackling unfamiliar problems.
- Appreciation of and respect for diversity ($\alpha = .84$)
 - openness to new ideas and perspectives
 - awareness and understanding of indigenous perspectives
 - awareness and understanding of cultures and perspectives other than your own.

Analytic approach

We conducted both descriptive and multivariate analyses. The descriptive analyses explored variations in key variables across demographic characteristics. The multivariate analyses included a series of blocked, forward regression analyses in which the independent variables were entered in three blocks: background characteristics, perceptions of institutional culture, and learning experiences (including diversity experiences). All analyses were conducted on the overall sample and then compared across local and international students.

Limitations

As with most studies, this one is not free of limitations. First, we acknowledge that our data is co relational (i.e., nonexperimental) in nature. Despite our periodical use of the term *effect*, as with any co relational data, cause-and-effect relationships should be interpreted cautiously. Second, all of the data collected from students are based on self-reports. Although this is a widely used and generally valid approach for obtaining student information (Pike, 1995), students may be using differing baselines when they are asked to report their own growth during college (Pascarella, 2001). The large sample size in the current study helps to offset threats to validity inherent in self-report measures by capturing a more accurate student population average rather than relying on a few individual students' own point of reference.

Results

Descriptive analyses

We compared the means of the graduate attributes – teamwork, problem-solving, and appreciation of and respect for diversity – for all students, international students only, and local students only (Table 2). Overall, students reported that their university experience contributed between ‘some’ and ‘quite a bit’ (means ranging from 3.52 to 3.85) to the development of these graduate attributes. However, there were differences when comparing the graduate attributes between international and local students. In regards to teamwork, international students reported that the university experience contributed more to developing their ability to work in teams as compared to local students [$t(5310) = 2.47, p < .05$]. Similarly, international students as compared to local students also reported that the university experience contributed more to their appreciation of and respect for diversity [$t(1595.54) = 7.17, p < .001$]. In regards to problem-solving, it was the local students who reported that university contributed more to the development of these skills as compared to their international peers [$t(1460.57) = -4.59, p < .001$].

Table 2: Mean comparisons of graduate attributes by demographic characteristics

	All Students	International	Local
Teamwork*	3.52	3.58	3.50
Problem—solving*	3.85	3.74	3.88
Appreciation of & respect for diversity*	3.54	3.72	3.49

* 5-point scale: from 1 = neutral, to 5 = very much

Regression analyses

Table 3 presents a summary of the blocked entry regression analyses for all students and Table 4 presents a summary comparing the blocked entry regression analyses for international and local students separately. Each column contains the *final* betas (standardized regression coefficients) associated with the diversity experiences, after student characteristics, perceptions of institutional culture, and all learning experiences were entered into the regression model. Given space constraints, we present the findings and will focus our discussion only on the key independent variables of interest, that is, student perceptions of institutional culture and student experiences with diversity. The multiple regression analyses conducted on all students show that perceptions of a positive institutional culture (i.e., the campus is a good place to be, UNSW provides an environment for students that is free from prejudice and discrimination) have significant positive effects on all three graduate attributes.

Table 3: Final multiple regression analyses for all students

	International			Local		
	Teamwork	Problem-solving	Appreciation of & respect for diversity	Teamwork	Problem-solving	Appreciation of & respect for diversity
<i>Perceptions of Institutional Culture</i>						
The campus is a good place to be	.14 ***	.20 ***	.22 ***	.14 ***	.19 ***	.18 ***
UNSW provides an environment for students that is free from prejudice and discrimination	.03	.07 *	.07 *	.08 ***	.09 ***	.10 ***
<i>Learning Experiences</i>						
Been exposed to diverse perspectives in class discussions or assignments	.01	.06	.17 ***	.06 ***	.08 ***	.26 ***
Had meaningful conversations w/ students of a different cultural group or ethnicity	.05	.10 *	-.01	.05 *	.02	.04
Had meaningful conversations w/ students of different religious beliefs, political opinions or personal values	.08	.05	.11 *	.00	.03	.12 ***
Had meaningful conversations w/ students of different religious beliefs, political opinions or personal values	.01	.03	.03	.01	.03	.02

* p<.05, ** p<.01, *** p<.001

Table 4: Final multiple regression analyses for international versus local students

	International			Local		
	Teamwork	Problem-solving	Appreciation of & respect for diversity	Teamwork	Problem-solving	Appreciation of & respect for diversity
<i>Perceptions of Institutional Culture</i>						
The campus is a good place to be	.14 ***	.20 ***	.22 ***	.14 ***	.19 ***	.18 ***
UNSW provides an environment for students that is free from prejudice and discrimination	.03	.07 *	.07 *	.08 ***	.09 ***	.10 ***
<i>Learning Experiences</i>						
Been exposed to diverse perspectives in class discussions or assignments	.01	.06	.17 ***	.06 ***	.08 ***	.26 ***
Had meaningful conversations w/ students of a different cultural group or ethnicity	.05	.10 *	-.01	.05 *	.02	.04
Had meaningful conversations w/ students of different religious beliefs, political opinions or personal values	.08	.05	.11 *	.00	.03	.12 ***

* p<.05, ** p<.01, *** p<.001

In regards to learning experiences, being exposed to diverse perspectives had a significant positive effect on all three graduate attributes. This positive effect was the strongest on appreciation of and respect for diversity. Having meaningful conversations with students of a different cultural group or ethnicity had a significant positive effect on teamwork only, while having meaningful conversations with students who are very different in terms of religious beliefs, political opinions or personal values had a significant positive effect on appreciation of and respect for diversity.

Table 4 compares the final multiple regression analyses for international and local students separately. In regards to institutional culture, perceptions that the campus is a good place to be had a positive effect on all three graduate attributes for both local and international students. This positive effect was even stronger for local students on their developing graduate attributes. Perceptions that UNSW provides an environment for students that is free from prejudice and discrimination had a positive effect on all three graduate attributes for local students, and only on problem-solving and appreciation of and respect for diversity for international students. Again, this positive effect was stronger for local students on their developing graduate attributes.

In regards to learning experiences, being exposed to diverse perspectives had a positive effect on all three graduate attributes for local students, but only had a positive effect on appreciation of and respect for diversity for international students. Having conversations with students of a different cultural group or ethnicity had a positive effect on teamwork skills for local students, and had a positive effect on problem-solving for international students. Lastly, having conversations with students with different religions, political opinions or personal values had a positive effect on appreciation of and respect for diversity for both local and international students.

Discussion and conclusion

Diversity in higher education has become a topic of increased interest both nationally and internationally. This is not surprising given that one of the key educational goals of higher education is to prepare students to function effectively in an increasingly diverse society. Whereas the international research literature has undoubtedly paved the way into this area, little is known about the value of diversity in the Australian context. A review of the diversity literature in Australian higher education has tended to focus largely on international students, their university experiences, and how to better integrate international students into Australian higher education (Burns, 1991; Mullins, Quintrell, & Hancock, 1995; Ramburuth & McCormick, 2001). Comparatively, little research has examined how *all* students, regardless of background or culture, can benefit from this diversity. A review of the 41 Australian Universities Quality Agency audit reports (AUQA, 2008) paints a similar picture. The AUQA audits focused mainly on internationalisation in terms of improving the international student experience and providing services for international students. While many universities acknowledge the cultural diversity of their student population – as is evident in their international student enrolments and their focus on increasing this enrolment – very few have realised the benefits and strengths of having such a diverse student body.

This study attempts to address this gap and examined whether student experiences with diversity and perceptions of a diversity culture impacts on the development of selected graduate attributes for *all students* at one Australian university. In general, student experiences with diversity had a positive effect on developing teamwork, problem-solving

skills, and appreciation of and respect for diversity – graduate attributes common to many Australian universities. These general findings mirror the international research literature and confirm the benefits of student experiences with diversity. Zúñiga et al. (2005) hypothesize that exposing students to diversity via the class content, assignments and discussions provide students with both content knowledge and practical tools for engaging in meaningful conversations; as a result, students are more open to differing perspectives and more open to challenging their own and others' biases. The findings of this study also align with the broader literature regarding cross-cultural interaction and its benefits, a phenomenon that has been replicated widely for over half a century since Allport's (1954) influential piece on contact theory.

While there are positive benefits of engaging in diversity activities for *all* students, greater gains in the development of graduate attributes are seen for local students as compared to international students. This finding also replicates previous research which has demonstrated that how one experiences these interactions and activities is influenced by one's status, that is, as a minority or majority group member (e.g., Mullen, Brown, & Smith, 1992; Sachdev & Bourhis, 1991; Sidanius & Pratto, 1999; Tropp & Pettigrew, 2005). For example, because international students are the minority, the chances that they will be exposed to diverse perspectives and engage with diverse others are much higher than those of local students. Thus, local students may benefit *more* from experiences with diversity and show greater gains in developing graduate attributes as these interactions are fewer and far between.

The findings regarding the positive impact of institutional culture also parallels emerging literature that the benefits of diversity are stronger than previously believed and can extend to environments (Chang et al., 2006; Denson & Chang, in press). Specifically, these studies showed that there are benefits associated with being *immersed* in such an institution that sustains positive race relations. While this study did not assess institutional culture per se, there is something to be said of student *perceptions* of the institutional culture. In this study, perceptions were measured by student agreement with the following two statements: "the campus is a good place to be" and "UNSW provides an environment for students that is free from prejudice and discrimination". Interestingly, while both had a positive impact on developing graduate attributes for both international and local students, "the campus is a good place to be" had a greater impact for international students, and "UNSW provides an environment for students that is free from prejudice and discrimination" had a greater impact for local students. Future research should examine in more depth the role of institutional culture on the development of graduate attributes.

In conclusion, the overall findings of this study suggests that the quality of the university experience is appreciably enhanced by perceptions of a positive institutional culture as well as experiences such as being exposed to diverse perspectives in class and by engaging in conversations with diverse others. We hope that our findings can persuade universities to be more intentional about encouraging diversity experiences both inside and outside the classroom. Australian higher education is unique in the western world because of its proximity to Asia and Australia's ability to attract large numbers of international students. This issue will become particularly important in the future as numerous Asian countries (China and India in particular) become increasingly dominant players in global markets. Capitalising on the diversity present at our universities will have real educational, social, political, and financial benefits for Australia.

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