Generic Skills and Collaborative Learning in Tertiary Education: an empirical examination of student perceptions

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ABSTRACT Cooperative and collaborative learning – learning in small groups – is generally considered an effective learning approach with benefits including learning gains and personal enhancement. Successful group activities, however, assume competence in a number of skills. Identification of the particular skills that students need to successfully negotiate collaborative learning is imperative in preparing students for these activities. However, the contemporary student body in many developed countries is becoming increasingly diverse. This empirical article seeks to identify whether undergraduate students from different countries and language backgrounds have different perceptions of the relative importance of Ehrman & Dornyei’s generic sub-skills. A cohort of students who completed a first-year undergraduate management subject were surveyed. Analysis of 266 responses identified the skills that students consider most important and demonstrated that the different student groups held the same perceptions of the importance of the 25 skills considered. The implications and benefits for preparing students for group work are considered.

Introduction

Language is both ‘a basic instrument in students’ cognitive, affective and social development’ and a ‘basic object of teaching, in the sense that becoming academically trained implies learning to use the language of a specific science appropriately in professional contexts, as well as learning to use language for general purposes’ (Webb, 2002, p. 52).

While the majority of university students receive tuition in their first or native language (L1), there is a substantial cohort of students in many Western universities studying in their second or third language (L2 and L3 respectively) (Lietz, 1996; Gray & Vernez, 1996; Reid, 1997; Brooks & Adams, 2002). There is mounting evidence that L2 students (and L3 and higher) are at a disadvantage compared to L1 students, as language background in the language of instruction is shown to impact on academic outcomes (Jenkins & Holley, 1990; Farrell & Ventura, 1998; Logan & Hazel, 1999; Strauss, 2001; Brooks & Adams, 2002; Webb, 2002; Downs, 2006). A further problem is that international students are not the only students susceptible to language proficiency issues. Immigrant students and students from non-English-speaking households may also experience language proficiency issues (Gray & Vernez, 1996; Reid, 1997).

A common distinction where English is the language of instruction is to identify students as either English-speaking background (ESB) or non-English-speaking background (NESB). The ESB/NESB distinction will be used in this study.

A second factor that can affect student outcomes is the method(s) of assessment. While this aspect has attracted relatively few studies, three studies in particular have examined the impact on student outcomes of both language background and assessment method. Jenkins & Holley (1990) considered NESB and ESB accounting students against four types of assessment questions...
(quantitative and qualitative versus multiple choice questions [MCQs] and open-ended questions).
In this study, conducted in the USA, they found that NESB students scored higher in MCQs and lower in open-ended questions compared to ESB students.

Logan & Hazel’s (1999) Australian study examined the role of language and gender in the assessment of first-year physics students. Gender was found to interact with language background, their general finding being that the performance of male and female ESB students and male NESB students was roughly equivalent, but the performance of female NESB students was lower. More specifically, ESB students performed better than NESB students on qualitative assessments. ESB males performed better than ESB females on MCQs, while ESB females performed better than ESB males on short flexible questions.

A South African study of first-year bioscience students, conducted by Downs (2006), considered four language background groups, i.e. ESB (‘white’), NESB (‘black’ and Indian) and an NESB group entering via an alternate non-award pathway. Students’ performance in coursework, a practical examination and the components of a theory examination (MCQs, short answer questions and essay questions) was compared. Consistent with Bridges et al (2002), all groups performed better in coursework than examinations. Similarly, all groups performed better in MCQs than in open-ended questions. While the inclusion of ‘black’ and Indian NESB groups was noted, significantly different results were not found between these two groups.

In short, studies across three different continents and three different disciplines have reported ESB students to perform better than NESB students generally, with different types of assessment producing some variations to this general rule.

Group-work-based assessments are becoming increasingly common in tertiary business-related subjects, engaging students in cooperative and collaborative learning. With these assessments, we also find that different student groups achieve different student outcomes. Strauss (2001) has suggested that L2 students are at a disadvantage when required to undertake group work. Brooks & Yusuf (2006) examined six student groups: local ESB; local NESB; Canada and USA; China, Hong Kong and Taiwan; Germany, Italy, Sweden and Norway; and one other. Differences in academic achievement were found across the various groups for group presentations, open-ended examinations and multiple choice assessments, but not for a group project assessment, supporting the existence of L2 disadvantage for both local and international NESB students, but suggesting that it might vary with the type of group-work assessment.

As skill in the language of instruction is clearly a factor in academic performance (see, for example, Brooks & Adams, 2002), there would seem to be two directions for academic intervention to ameliorate any disadvantage L2 students may experience in group work. One is to address the L2 students’ level of competence in the language of instruction, but this is beyond the purview of most academics teaching in business-related degrees. The second is to address the L2 students’ level of competence in working in groups. It is this latter option that is explored in this article and, hence, two areas of academic endeavour are involved: generic skills and cooperative learning.

‘Over the past two [and a half] decades the terms generic skills, graduate qualities, generic attributes and core capabilities have become a familiar part of the teaching and learning landscape of higher education’ (Barrie & Prosser, 2004, p. 243). While various determinations of what precisely is encompassed by generic skills have been made, teamwork is a recurring element (Billing, 2003, p. 346; Gilbert et al, 2004, p. 377). It can be said that, with regard to generic skills in university courses, ‘the voices of employers, universities and government have been clearly heard. However, the undergraduate student voice has been largely missing’ (Leggett et al, 2004, p. 295). Some research has addressed aspects of student perceptions. Leggett et al (2004) examined student and staff perceptions of various broad skills. Phillips & Bond (2004) considered critical thinking in some detail. No studies were found examining the specific composition of group or team skills from the undergraduate student’s perspective.

Cooperative learning and collaborative learning have been commended for their beneficial outcomes (see, for example, Slavin, 1996). They have three key characteristics: learners work together to learn in small groups; group members are responsible for each other’s learning and their own learning; and the group’s achievement is considered at least as important as the individual’s achievement (Erhman & Dornyei, 1998). While fundamentally the same, an important point of difference between cooperative learning and collaborative learning is that in the former,
teachers assume much responsibility, whereas in the collaborative approach the control and operation of the group remains in the hands of the students as much as possible (Strauss & U, 2007, p. 148). The success of cooperative and collaborative learning groups can be affected by a range of factors. However, the value of social skills or behaviours has been highlighted by Cohen (1994) and Johnson & Johnson (1995), reflecting the centrality of social interaction in group-based learning. Drawing on the work of these authors, Erhman & Dornyei (1998) have assembled a comprehensive set of skills for cooperative and collaborative group work. Proficiency in these skills will benefit the interactions within the group whether they are L1 or L2 students. However, given the different outcomes of L1 and L2 students, it should not be assumed that these student groups will bring the same skills or skill levels to their groups.

This study seeks to extend the literature by examining students’ perceptions of what they consider to be the most important skills in group work. This study will facilitate the equipping of students for successful group work by identifying those skills that students consider to be important in their experience, and by identifying whether students from different language backgrounds – L1, L2, etc. – have different perceptions, and therefore different needs, with regard to being equipped for successful group work.

### Methodology

#### Sample

A self-report survey was distributed to a class of 427 first-year undergraduate students, providing 266 useable responses. The students were from a range of degree programs including Business, Marketing, Finance and Accounting. The sample included students from Australia, Canada, China, Germany, Hong Kong, Italy, Norway, Sweden, Taiwan, the USA and small numbers from several other countries. Data was collected in the last week of a semester during which students had completed two collaborative group investigations (Erhman & Dornyei, 1998, p. 250), one resulting in an oral presentation and written report, the other resulting in a written report only.

<table>
<thead>
<tr>
<th>Skill Description</th>
<th>Category</th>
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<tbody>
<tr>
<td>Setting out clearly and revisiting the purposes of the activity</td>
<td>Productivity</td>
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<tr>
<td>Setting goals; working out strategies for reaching goals</td>
<td>Productivity</td>
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<tr>
<td>Negotiating ideas and coming to joint decisions</td>
<td>Communication,</td>
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<tr>
<td>Relationships</td>
<td></td>
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<tr>
<td>Working out compromises; developing a consensus</td>
<td>Relationships</td>
</tr>
<tr>
<td>Organising and coordinating other people</td>
<td>Productivity</td>
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<tr>
<td>Setting time limits; drawing attention to these</td>
<td>Productivity</td>
</tr>
<tr>
<td>Showing others how to do things</td>
<td>Productivity</td>
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<tr>
<td>Supporting others in learning new tasks</td>
<td>Productivity,</td>
</tr>
<tr>
<td>relationships</td>
<td></td>
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<tr>
<td>Giving constructive feedback</td>
<td>Productivity,</td>
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<tr>
<td>relationships</td>
<td></td>
</tr>
<tr>
<td>Critiquing ideas without criticising people</td>
<td>Relationships</td>
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<tr>
<td>Managing conflict by discussing differences</td>
<td>Relationships</td>
</tr>
<tr>
<td>Expressing disappointment/frustration/anger using ‘I feel…’ statements rather than</td>
<td>Relationships</td>
</tr>
<tr>
<td>‘You…’ statements</td>
<td></td>
</tr>
<tr>
<td>Encouraging others to contribute</td>
<td>Productivity</td>
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<tr>
<td>Making suggestions</td>
<td>Communication,</td>
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<tr>
<td>productivity</td>
<td></td>
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<tr>
<td>Asking for other people’s opinions</td>
<td>Communication,</td>
</tr>
<tr>
<td>opinions</td>
<td>productivity</td>
</tr>
<tr>
<td>Asking for help, or clarification</td>
<td>Communication</td>
</tr>
<tr>
<td>Listening to one another</td>
<td>Communication</td>
</tr>
<tr>
<td>Reflecting on what has been said</td>
<td>Communication</td>
</tr>
<tr>
<td>Giving reasons</td>
<td>Communication</td>
</tr>
<tr>
<td>Giving explanations: saying how and why</td>
<td>Communication</td>
</tr>
<tr>
<td>Paraphrasing and clarifying other people’s contributions</td>
<td>Communication</td>
</tr>
<tr>
<td>Summarising the ideas of the group</td>
<td>Communication</td>
</tr>
<tr>
<td>‘Tolerance – of differences in team members’ personal styles</td>
<td>Relationships</td>
</tr>
</tbody>
</table>

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Demographics and Language Background

The language of instruction was English. It is noted that students can have English as their first language yet come from a range of nations, and that local students may not have English as their first language. Students were asked to identify their country of origin, from which students were designated as either local or overseas, and their first language, from which students were designated as either ESB or NESB. Three groups were collated: local ESB students (n = 154), local NESB students (n = 72) and overseas students (n = 40).

Collaborative Learning Skills Preferences

Students were asked to nominate the 10 group skills from those listed in Table I that they considered to be most important. The first 22 are behavioural skills commended by Erhman & Dornyei (1998), while the last three are additional individual skills.[1] Subsequent to the survey, each skill was categorised by the authors as representing one or more of three themes: communication, productivity and relationships. The communication theme embraced skills that were fundamentally about communication processes. The productivity theme embraced those skills that addressed achieving goals and making efficient use of resources. The relationships theme embraced the skills that addressed the development or maintenance of group relationships or the appropriate treatment of people. It should be noted that some skills had substantial aspects of two themes and were designated as both.

Analysis

The frequency of nomination of each group skill was identified for each of the student groups. The similarity of each group to the other groups was evaluated using the chi-square statistic. A second test of similarity was performed by identifying, for each group, the rank order of the group skills from most frequently nominated to least frequent and comparing them using Kendall’s tau and Spearman’s rho. Finally, multidimensional scaling was performed, using the number of nominations each pair had in common as the basis for comparing pairs of responses.

Results

The number of nominations for each skill by local ESB students, local NESB students and overseas students are shown in Figures 1, 2 and 3 respectively. Casual observation of the three figures will reveal that a number of features appear to be common across the three student groups. For example, each group shows a prevalence of nominations for skills b, c, f and i, suggesting that there is a degree of similarity between these groups’ attitudes.

Examination of the differences in the proportion of nominations given to each skill by each of the groups was carried out by a chi-square test. The resulting p-value of 0.995 indicates that there are virtually no differences between the three student groups in terms of their attitudes toward the 25 group skills, each skill attracting a similar proportion of nominations from each group.

The order in which each student group ranked each skill is given in Table II. The lowest number (1) indicates the least nominated skill, while the highest number (25) indicates the most nominated skill. Examination of the extent to which the rank numbers are correlated using Kendall’s tau and Spearman’s rho indicates that there is substantial agreement between each group’s ranking of the skills. The multidimensional scaling map is shown in Figure 4. Examination of this figure shows no evidence of clustering of student groups.
Figure 1. Group skill nominations by local ESB students.

Figure 2. Group skill nominations by local NESB students.
In summary, the student perceptions of group skills demonstrate a distinct pattern regarding what students consider to be the most important skills. There is no evidence that what would seem to be disparate groups of students in terms of language background and country of origin are in any way
different in terms of their perception of what are the most important skills for successful group work.

![Multidimensional scaling map.](image)

**Discussion**

It is, perhaps, remarkable that students' perceptions of what are the important group skills are essentially the same. Yet this is the case, for this cohort at least, despite their range of nationalities and L1s and, by implication, the range of different cultures from which they draw their beliefs and values. While this finding is of academic interest, it is also of substantial practical value. The purpose of the study was to examine students' perceptions of what they consider to be the most important group skills, and to identify whether students from different language backgrounds have different perceptions, and therefore different needs, with regard to being equipped for successful group work. Having identified that their perceptions are the same, the task of equipping the students is greatly simplified. A single curriculum or intervention program need be developed rather than group-specific curricula. Delivery, too, is greatly simplified. Rather than organise classes specifically for each student group, interventions can address the whole, integrated student body in the normal class schedule.

The nomination of only 10 skills out of the total of 25 is an arbitrary distinction. However, consideration of those 'top 10' skills reveals some useful insights. Given that the potential for disadvantage for overseas students in group-based assessments was a motivation for this study, the 10 skills most nominated by overseas students will be the focus of this discussion, i.e. collaborative learning skills b, e, a, n, f, c, q, i, m and o (see Table I for descriptions of these skills and their themes). It should be noted that these 10 skills are identical to the 10 skills most nominated by local ESB and local NESB students in all but two respects: firstly, the rank order differs to some degree and, secondly, skill w is included in the 10 skills most nominated by the local student groups, while skill o is not.

Consideration of the themes listed in Table I for the 'top 10' collaborative learning skills reveals that the predominant concern is productivity. Eight of the ten have a productivity theme, either solely or in part. Four of the ten have a communication theme, while two have a relationships theme. It would seem reasonable to suggest that overseas students in Australia are concerned primarily about productivity in collaborative learning situations, with communication a secondary theme, and relationships a lesser concern.
On the other hand, consideration of the 10 least nominated skills (l, g, y, s, u, r, x, p, k and h) shows that five have a communication theme, four have a relationships theme and two have a productivity theme. While this does not quite mirror the ‘top 10’, one could say with some confidence that there are few aspects of productivity that students do not consider important.

Considering local students only (by replacing skill o, which has themes of communication and productivity, with skill w, which has a relationships theme) produces a ‘top 10’ with seven productivity-themed skills and the communication and relationships themes being represented by three skills each. The 10 skills least nominated by local ESB students are the same as for overseas students, although the ordering is different. Local NESB students, however, replace skill x with skill j, both of which have a relationships theme. In essence, there is little difference between the least nominated 10 skills of the three groups, each having identical numbers of each theme.

Conclusion
The results of this study give clear indications of students’ views of what collaborative learning skills are considered important by them. At a general level, skills related to the productivity of the group were the most prevalent concern, followed by skills related to communication between group members and then skills concerned with relationships within the group. Specifically, the highest concern was for skills related to setting goals and working out strategies for reaching goals.

The students sampled differed in their degree programs, language background, academic performance and various other attributes not considered, such as culture. These differences might reasonably produce different perceptions of the relative importance of various skills and suggest that, to facilitate their cooperative learning, different groups warrant separate treatment in terms of learning group selection and skills training. However, this study finds that, for this cohort at least, although there are substantial differences between the people, their attitudes to what group skills are important are, in fact, in harmony.

Note
[1] The authors would like to acknowledge the assistance of Alan Jones, Samantha Sin and Lorraine Sorrell in constructing the survey instrument.

References


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