The Enhancing Series Case Studies: International Learning Experience

Assessed Mixed Nationality Group Work at a UK University: Does it Get Results?

Rachel Wicaksono
York St John University

Summary

This two-phase mixed methods study explores the benefits and drawbacks of mixed nationality group work for students at York St John University (YSJU). The first phase surveys Business Management students on their experience of group work. I find that certain differences within groups are considered to be negative, including: culture (nationality), (lower) ‘proficiency’ in English, (lower) ability and (lower) motivation. None of these four differences are categorical variables, rather they are scales of belief, behaviour and achievement. I therefore conclude that intra-group difference per se may not explain a group work effect. Instead, I suggest that group outcomes are a result of members' understanding and use of intra-group difference; their context, task and time-dependent perception of diversity. I predict that research into intra-group diversity will continue to produce inconsistent results.

The second phase focuses on a threat to equity mentioned in phase one: different levels of intra-group academic achievement. I analyse individual and mixed nationality group marks from the same cohort of students. Regression of individual marks against group marks finds that the highest-achieving student contributes most to the performance of the group. Further tests show that low and average-achieving students are dragged up by mixed nationality group work, while the highest achieving student in the group is dragged down. I suggest that there is some evidence for an information-processing or ‘pooling’ benefit for most of the group, but not a sufficiently strong ‘synergy’ or ‘teaching effect’ to affect the marks of the best students.

I conclude with some suggestions for changes to the organisation and assessment of group work.
Under the headline ‘Teamwork gets results’ the Career section of The Times reports,

“As companies adopt a more global outlook, greater collaboration is a vital corporate need.” (Ford, 2007)

“…a diverse workforce makes both moral and, increasingly, economic sense.” (Dight, 2007)

In my experience, students at YSJU seemed to dislike working in diverse groups. Discussions with colleagues at other universities suggested that this was a widespread feeling.

Aims of the Study

The theme of this study is the construction and use of ideas about ‘difference’ in learning groups. In the study, I examine students’ beliefs about how differences within their groups may account for the benefits and difficulties they have experienced. From the range of ideas expressed by students about difference in learning groups, I select the category ‘ability’ and describe the relationship between individual and group marks, on a module of study at YSJU.

The first phase of the study aims to answer the research question:

1 What do students (home and international) enrolled in a BA Business Management at YSJU think about group work?

The second phase of the study aims to answer the research question:

2 Does having higher ability students in the group increase the group mark or does group work drag everyone’s marks down? That is, to what extent is achievement in group work (where grades are based on group performance criteria) a function of the individual achievement (as shown in other individual, i.e. non-group, assessments) of group members?

Group Member Diversity and Group Performance

At least five decades of research into the relationships between group membership and group performance have found positive, negative and neutral effects. Explanations of group performance have been offered in psychology, education and economics, and include the theories of: similarity-attraction, social identity/self-categorisation, information-processing, (Mannix & Neale 2005) peer effect (Hoxby 2000, Ding & Lehrer 2005) and ‘free riding’ Pitt (2000). Beliefs about the teams’ resources, external forces (institutional, local, national), as well as time, task type and expectations of group work, may also mediate interaction between group members.
One aspect of group input that has received a great deal of attention in the literature is the level of diversity within the group. Mannix and Neale (2005) cite research that both supports and contradicts the claim that teams with surface-level diversity (race, ethnicity, gender, age, language(s)) may not function as effectively as superficially homogenous teams. They suggest that this lack of consistency between findings could be because groups’ perception of intra-group diversity affects if, and how, the group decides to interact. Mannix and Neale (ibid) define diversity as, ‘any attribute people use to tell themselves that another person is different.’

The diagram below aims to summarise these explanations and show how they relate to each other. Explanations for the possible drawbacks of group work are shown in Times New Roman font, while explanations for the possible benefits are shown in Verdana font. The lines on the diagram show how theories of positive and negative group work effects can be ranged on a number of axes; as well as how they may be dependent for their effect on the institutional context and task type. The interaction of the axes is an attempt to show that, while the theories presented in the literature review have been, on the whole, presented in isolation from each other, it is possible that they could co-exist, reinforcing or cancelling each other out.
Drawback 1 Social identity and self-categorisation theory, similarity-attraction theory: Students prefer to work with people they perceive to be similar to themselves. When they notice intra-group differences (gender, age, ability, nationality, personality type, language) they may feel that communication within the group is hindered and that their group work is less likely to be successful.

Benefit 2 Free-rider theory: students who don’t contribute any resources (because they are lazy or want to concentrate on individual assessments), or academically weaker students (who have fewer resources to contribute), drag the group mark down.

Drawback 2 Free-rider theory: students who are weaker do not participate in group work to avoid diluting the group effort and dragging the group mark down.

Benefit 1 Social identity and self-categorisation theory, similarity-attraction theory: Students prefer to work with people they perceive to be similar to themselves. When they notice intra-group differences (gender, age, ability, nationality, personality type, language) they may feel that communication within the group is hindered and that their group work is less likely to be successful.

Benefit 3 Expectancy bias: students believe that group work is a good way of learning and so participate extra enthusiastically in group projects. Lecturers tend to ‘see’ better results on group than on individual projects.

Drawback 3 Expectancy bias: students do not believe that group work is a good way of learning and so participate less enthusiastically in group projects. Lecturers tend to ‘see’ worse results on group than on individual projects.
Research Design and Theory

The conceptual framework above, developed from the literature on mixed groups, is used to analyse data collected from YSJU Business Management students on their experiences of and beliefs about group work. The analysis of the qualitative data finds that students experience difference in terms of language, nationality and ability, and fear that these differences have a negative effect on their group mark. The literature on peer effects of group work shows that students’ fears about their marks being dragged down by weaker students are probably unfounded, and so in the second stage of the study I deduce and test three hypotheses about the relationship between the ability of individual members and the group mark.

Tashakkori and Teddlie (1998:46), call this design a two-phase, QUAL/QUAN, ‘sequential mixed methods’ design. They say,

“In the QUAL/QUAN sequence…the investigator starts with qualitative data collection and analysis on a relatively unexplored topic, using the results to design a subsequent quantitative phase of the study”. (1998: 47)

The theoretical underpinnings of a mixed methods approach are pragmatic (Tashakkori & Teddlie 1998, Robson 2002). Rejecting the either/or choice of positivism (including postpositivism) and constructivism, the pragmatic paradigm ‘embraces both points of view’ (Tashakkori & Teddlie 1998: 23). Employing both inductive and deductive logic, qualitative and quantitative methods; in the pragmatic paradigm the choice of methods, logic, and epistemology depends on the research question and ‘what works’.

Sample

In the qualitative phase, fifty students were surveyed (one third ‘international’, two thirds UK). In the quantitative phase, students were randomly assigned to their groups by the module tutor, who then re-assigned to ensure that each group contained at least one, sometimes two, international students. There were twenty groups, consisting of five students each.

Phase 1: Qualitative Data

Data Collection and Analysis

The survey data was collected by a business management student for her dissertation (Feasby, 2005) from the same cohort that provided the marks for phase two of this study. The students’ responses were analysed using a template-type approach (Robson 2002: 458).

Findings

Of the students surveyed, 64% said that they enjoyed group work. This proportion was very similar for both home and international students.
The students’ comments on language, nationality, ability and personality issues within their groups focused on the importance of similarity. Typical comments on ability included,

“Group work has been the most enjoyable when all group members have had similar abilities and level of understanding”.

“People have different standards of work; one member may be A grade another D so may bring marks down for some”.

All students who noted ability as a factor felt that having the same level of ability as others within the group made the group more effective.

The most popular comment was on the importance of good communication within the group. One student mentioned ‘language barriers’ as a reason why groups did not work together well. Another said, ‘I found communication with international students difficult’.

A small number of students mentioned nationality as a reason why groups worked, or did not work well, together. Comments included,

“Chinese are lazy”.

“English students are never really punctual or approachable. Very few of them are dedicated to group work. Also, some culture discrimination exists”.

“Maybe English people can learn…what’s going on in the world a little more, so it’s easier to talk with people from other cultural backgrounds”.

“No commitment of local students as they only talk about their night out and hangovers when the group meets”.

Respondents who mentioned nationality as a factor in successful group work indicated that mono-national groups were preferable.

Comments on the personality of group members were less clear on the benefits of similarities or differences. Several mentioned ‘personality conflicts’ as a factor in unsuccessful group work, but did not say whether the conflict was a result of having too many similar, or too many different, personalities. The importance of friendship within successful groups was frequently noted; comments included,

“If the group bonds on a social level, they will all feel comfortable with who they are working with (and easily express their opinions)”.

 “[effective groups] have a good laugh with group members because they get on well”.

The importance of equal levels of participation was as popular a reason for (un)successful group work as ‘communication’. Typical comments included,

“[unsuccessful groups have] different expectations, some just want to pass with bare minimum, others put in 100%”.

“I enjoyed working in a group when all the members were committed to the task set and did a fair percentage of the work”.

“I feel that the lazy people get a good ride if they are in a good group”.

Difference was recognised as a strength in a group, where knowledge and skills were concerned, for example,

“Everyone has different skills, when working together and using these skills the outcome is better than individual – synergy”.

“Sparking ideas and discussion – help each other to make sense and bring out ideas through questioning”.

Discussion

Differences between group members’ first language, nationality, ability and personality were almost unanimously believed to have a negative effect on group performance by the students surveyed. This is explained by similarity-attraction theory; which suggests that people who consider themselves culturally similar tend to be attracted to each other, and have less difficulty communicating with each other than those who see themselves as culturally heterogeneous. What we notice as being different is explained by Mannix & Neale (2005:43) as follows, ‘ultimately, the context provides the backdrop for what is noticed and becomes salient and relevant to organisational actors’.

For the students in this study, ‘assessment’ creates a context in which ‘ability’ and ‘communication skills’ are crucially relevant and, therefore, likely to be noticed. How students judge each others’ ability and communication skills may depend on certain aspects of their institutional (and wider social) context. For example, where the institutional talk about students commonly revolves around ‘international’ versus ‘home’, ‘native speaker’ versus ‘non-native speaker’, ‘high achiever’ versus ‘low achiever’ or ‘lazy’ versus ‘hard-working’, intra-group differences may become exaggerated, resulting in the confident allocation of peers to discrete categories. Once a category has been noticed and other students (mentally) placed inside it, the members of the ‘other’ group are generally considered to be more homogenous than ‘us’, and to be judged as such more quickly and with more confidence. In fact, both ‘academic ability’ and ‘ability to communicate’ are continuous, not discrete, qualities; they are also heavily dependent on institutional definitions of ability and communication, as well as being influenced by the design of a specific task. On the other hand, apart from dual nationals, we all have one ‘nationality’; and yet the use of this category to explain other categories, such
as ability, motivation and communication skills is as suspect as the categories themselves.

Many students commented on the benefits of ‘sameness’; specifically, sharing language, nationality, personality, levels of ability and motivation to participate. Where difference was valued (ideas and skills), the source of difference was assumed to be elsewhere, though exactly where was not specified.

Students were wholly negative about free-riding and their explanations for it were also negative; people who did not do their fair share of the group’s work were ‘lazy’, ‘not committed’ and ‘lack[ed] motivation’. It may indeed be that some students are poorly motivated and happy for others to do their work. But it may also be the case that the ‘high stakes’ nature of assessment at university increases the likelihood of instrumental motivation and can make free-riding a rational choice.

About half the students surveyed said that they enjoyed group work, implying that group work is a good way of learning or of getting good marks. For these students a possible explanation for higher group than individual marks is subject expectancy bias.

Intra-group diversity seems to be both negative and positive for the students surveyed; negative where it is assumed to be a fixed quality of difference and positive where it is assumed to provide a range of ideas for development by the group. Perhaps, as has been suggested, group outcomes are a result of the members’ understanding and use of diversity within their group, their perception of diversity.

Phase 2: Quantitative Data

Phase two of the study aims to answer the question: does having higher ability students in the group increase the group mark or does group work drag everyone’s marks down? The following hypotheses are tested:

- **H1**: the individual marks of the lowest achieving student in the group is the strongest predictor of the group mark.
- **H2**: the mean of the individual marks of all students in the group is the strongest predictor of the group mark.
- **H3**: the individual marks of the highest achieving student in the group is the strongest predictor of the group mark.

Data Analysis

To answer the question ‘is the difference between the mean group work score of international students and home students significant?’ a t test of mean difference is run.

Next, the group work mark of each of the twenty groups is regressed on to a measure of the individual ability (a mean of the marks achieved in three non-
group work assessments undertaken in the same academic year) of the lowest achieving student, the highest achieving student and the mean individual ability of the group. The aim of the three regressions is to determine the best predictor of group marks.

Finally, the mean mark of the assessed mixed nationality groups is compared with individual mean marks on non-group assessments.

**Findings**

**Differences Between Home and International Students**

Having chosen assessment tasks where the students were randomly allocated into multi-national groups, I expected to find very little difference between the average marks of the home and international students. Indeed, the average group work mark for home students was 58.16% and for international students 56.03%. This difference is statistically insignificant.

In contrast, the marks for the average of three individual assessments do show a statistically significant difference between the average for home students (56.6%), and the average for international students (48.2%).

**Correlations**

The Pearson product-moment correlation coefficients are insignificant between the average group mark and the lowest individual mark in the group, and positive and significant between the average individual mark ($r = .401$) and the highest individual mark ($r = .634$).

**Regressions**

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Mean square of residuals</th>
<th>Standardised beta coefficient</th>
<th>$t$</th>
<th>Sig.</th>
<th>$R^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 (lowest)</td>
<td>77.67</td>
<td>-.024</td>
<td>-.235</td>
<td>.815</td>
<td>.001</td>
</tr>
<tr>
<td>2 (mean)</td>
<td>65.23</td>
<td>.401</td>
<td>4.330</td>
<td>.000</td>
<td>.161</td>
</tr>
<tr>
<td>3 (highest)</td>
<td>46.49</td>
<td>.634</td>
<td>8.113</td>
<td>.000</td>
<td>.402</td>
</tr>
</tbody>
</table>

The table above shows that the estimated beta coefficients for the lowest achieving students in the group are insignificant at the customary confidence level. This suggests that the individual ability of the least able group member is uncorrelated with the performance of the group. H1 can be rejected. In contrast, the estimated beta coefficients for the relationship between the average group achievement, and the group member with the highest ability do seem to be significant predictors of group performance. The higher the individual mark of the most able student, therefore, the higher the group mark. In fact, the results suggest that for every extra 1% in the individual mark of the best student in the group, the mark of the whole group is expected to rise by 0.63%. H3 can be accepted, as the mark of the strongest individual is the best predictor of the overall group mark.
### t Tests

The mean mark of the assessed mixed nationality groups (57) is four marks higher than the mean of the non-group assessments (53); this is a statistically significant difference. This result suggests that, in this sample, many of the mixed nationality groups perform at the same, or at a higher level, than the average ability of the individuals that make up the group.

To investigate the relationship between individual and group marks more closely, a paired samples t-test to measure the significance of the difference between the group mark and the lowest, mean and highest individual marks was conducted. The difference between the mean group mark (57) and the mean highest individual mark (65) was -7, t(99) = -10.43, p < .05. Between the mean group mark (57) and a mean of the mean individual marks (53), the difference (4) is statistically significant, and the smallest of the three differences, t(99) = 4.32, p < .05. The largest of the three differences, that between the mean group mark (57) and the mean lowest individual mark (44), was 13, t(99) = 12.83, p < .05.

### Discussion

As expected, the differences in the group work marks of international and home students were statistically insignificant. However, generally, international students did less well than home students on the individually assessed components. As the groups were awarded a group mark for their presentation and report, we are not able to judge whether the international students were thought by the markers to have made a greater or lesser contribution than the home students.

In the second stage of the analysis, we saw that within a group, low and averagely achieving students tend to benefit from being placed in a group with stronger students. Low achieving students stand to gain thirteen marks on a group assignment, compared to their mean individual assignment marks. Averagely achieving students gain four marks on group assignments, compared to their mean individual assignment marks. The highest achieving students in the group, however, are disadvantaged by being in a mixed ability group, losing seven marks from their mean individual assignment mark. These highest achieving students are not necessarily high achievers per se; they are the highest achievers in a mixed ability group. They seem to miss out on the opportunity to have their own marks ‘dragged up’ by even stronger students. This finding is in contrast to a study conducted by de Vita (2002), which found that mixed nationality group marks were as high, or higher, than the average individual mark of the best group member. My results show that the students’ fear that group work can have a detrimental effect on their marks is unfounded for the lowest achieving and averagely achieving members; their marks are, in fact, dragged up by group work. The highest achieving students, however, are right to dislike group work. Group work drags the mean mark of the cohort up, but at the expense of the highest achieving individuals in the groups.

The results of the regression suggest that, despite the t-tests showing that group work drags the mean mark of the cohort up, at the expense of the highest achieving individuals, we cannot be over-confident about the
importance of this finding. The value of the coefficient of determination in the highest achieving students’ model ($R^2 = .402$) suggests that although some part of the total variation in group work marks is explained by this model, there are other factors that go beyond the individual ability of the highest achieving member of the group. Group work marks can be partly explained by the ability of the highest achieving group member, but there are other possible factors that contribute to a complete explanation. This study does not identify or measure any of these other factors and further research is needed to suggest what they might be.

We can only speculate on why some students benefit from group work and others do not. Any, or a combination, of the following reasons may explain the result: an information processing effect (pooling resources); free-riding on the highest achieving students; subject or observer expectancy bias. There does not seem to be a teaching effect, where the highest achieving students benefit from helping those of lower ability than themselves to learn. Neither does there seem to be a synergistic effect, where students work together to produce an outcome that is better than that they could have achieved as individuals. It seems more likely that if there is ‘pooling’ of resources, the pooling is one way; from the highest achiever to the averagely achieving and lowest achieving students, at the expense of the highest achiever. Put another way, the resources of the highest achiever are diluted by the other students in the group.

Finally, it is important to remember that although some part of the total variation in group work marks is explained by the efforts of the highest achieving student, there are other factors that are not accounted for. Further investigation of group work processes is needed in order to identify these factors and how they may interact with each other and with the ability of the group members. To return to the analysis of the qualitative data in phase one of this study, the importance of ability in mixed nationality groups may depend on other differences that group members notice and ascribe importance to. Which these differences are, may depend, in turn, on institutional context, task type and time.

**Suggestions for Changes in the Organisation of Mixed Nationality Group Work**

- When setting a group work task, be positive about the benefits of group work, its importance as a useful skill in the work place and as an effective way of learning.
- Design group tasks to require diverse opinions, experiences and skills;
- Assign students to groups so that a range of abilities and other differences are represented. In particular, consider equal distribution of higher achieving students.
- Consider how the group processes, as well as the final product, might be assessed.
- Facilitate agreement from the beginning on the nature of the task.
• Create an atmosphere in which different viewpoints are welcomed by the team.
• Find ways to help diverse team members identify common goals and values.
• Support the views held by the smallest number of people in the team;
• Try to avoid one group member being seen as ‘in a minority’ - more diversity is better than less.
• Provide training for students in skills for effective group work.

This study has found that many students do benefit from group work, including mixed nationality group work. Exactly how these benefits occur, and why and when they cease to occur for higher achieving students, remains to be seen.

Biography

Rachel Wicaksono has taught English, trained teachers and managed schools in the UK, Indonesia, Hong Kong, India, Sri Lanka, Japan, Pakistan, Vietnam, Malaysia and Singapore. She is a senior lecturer at York St John University (YSJU) and head of programme for the YSJU MA Teaching English to Speakers of Other Languages. Her research interests are in the assessment of 'international' students in UK universities, mixed nationality pair and group work, the use of English as an international language and the allocation of resources in Higher Education. She is a freelance writer and broadcaster for the BBC World Service Learning English website.

References


