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Group role-play as a method of facilitating student to student interaction and making theory relevant

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Abstract

Large group settings, which often mean less peer to peer interaction among students, are increasingly common in many UK universities. This project proposes group role-play as one possible teaching method in a large group of students, and aims to evaluate how it affects peer to peer interaction and its perceived learning benefits. The findings suggest that group role-play does encourage interaction between students and facilitates their understanding of the applicability of theories to practice. However, this study also found that group role-play should be mixed with a lecture, and that the tutor has to pay attention to time management and the motivation of a student to get involved.

1. Introduction: context of research

One of the primary strategic goals of universities in the UK is to improve teaching quality. At the same time, as the result of Government's spending cuts following the Browne's review (2010), many British universities, are facing radically reduced financial support for teaching from government and therefore have to 'optimise' their teaching practices. For example, in the near future the university, on which the study presented in this paper is based, aims to introduce a minimum of sixty students per module. This means that I and other university lecturers will have to maintain and improve the quality of teaching while facing large class sizes.

Therefore in the action research project I present in this paper I have focused on group role play- a methods that can be used to facilitate peer to peer interaction in a large group of master level students taking the Organisational Behaviour (OB) module I teach. This module is delivered twice a year to a class of approximately 60 to 120 students who come from three or four different MSc programmes. It includes a two hour lecture and one 50 minute 'tutorial' for (all) students on this module every week.

Currently there is limited scope for peer to peer interaction in this module. Teaching consists mostly of lectures, which despite active engagement techniques (asking questions of the students, showing videos etc.), are in my opinion, still too much teacher-led and focused. Last year I did attempt to make OB tutorials more interactive by splitting students into smaller groups coming alternate weeks and introducing group work. Although the feedback from students was positive, they felt that it was not fair to have tutorials only on alternate weeks and emphasised that they would still have liked more opportunities for active participation and interaction with each other.

This year I have decided to try to use group role-play as one of the methods to facilitate peer interaction and help learning, and therefore the aim of this project is examine how successful that technique can be.

2. Literature review

Peer to peer interaction (also called student-student interaction) refers to communication between learners. Learning, according to Vygotsky (1978), is a social process, therefore peer to peer interaction provides an additional opportunity for students to learn by interacting with each other, rather than only with the lecturer. According to Abercombie (1969, quoted in Biggs, 2000) positive outcomes arise because students can more easily identify with each other's learning than that of the teacher.

Numerous studies provide evidence that peer to peer interaction among learners can have several positive learning outcomes (Webb, 2010) because it influences their cognitive activity (e.g. Cohen, 1994; O'Donnell & King, 1999). Through interaction with each other students are exposed to different interpretations which help them to elaborate known content (King, 1990). This helps them to develop standards for judging different interpretations and their own and others' work (Anderson, Howe, Soden, Halliday, & Low, 2001; King, 1990). Peer to peer interaction also increases metacognitive awareness of one's own learning (King, 1998), if students get involved in discussions about how they arrived at their interpretations and conclusions. Through interacting with each other, students also engage in co-construction of knowledge (King, 1998). Helping others and being helped by peers to understand the material can bring higher learning achievements (King, 1990; Webb, 1989).

In addition, according to Biggs (2000) and Webb (2010), peer interaction has a range of motivational and social benefits. These include: interacting with peers is more interesting than listening to lectures, improves communication skills, increases self-awareness and also provides opportunities for forming relationships.

As King (2002) has emphasised, different types of peer interaction facilitate different kinds of learning and cognitive processes. Cohen (1994) argues that peer interaction promotes high-level cognitive processes if the interaction among learners involves an exchange of ideas, information, perspectives, attitudes and opinions. As the result of such interaction, students improve their ability to make a strong argument, analyse information and apply their knowledge into practice. However, as research suggests (e.g. Pressley, McDaniel, Turnure, Wood, & Ahmad, 1987; Webb, Ender, & Lewis, 1986) a peer interaction that facilitates development and application of high-level cognitive processes does not happen spontaneously in the classroom and therefore has to be organised by the teacher.

A wide range of teaching methods to facilitate peer interaction have been proposed in the literature and employed by professionals, but this project will focus particularly on group role-play as a way of encouraging peer to peer interaction in large student classes.

3. Action

I came up with the idea of group role-play several years ago when teaching a similar subject, Organisational Psychology. The novelty of the group role-play lays in the fact that is a combination of two traditional teaching methods: work in small groups and role-play and that although both of these traditional methods are designed for the use in small groups, group role play is suitable for large groups. For the group role-play, a group of students is split into smaller groups and given a specific task to complete, like in small group work. However, in addition to working on a specific task, the members of each group are asked to play a certain "role". Unlike in traditional role-play, all members of one group play the same role, not individually assigned roles. Both small group teaching and role-play, where each student plays his or her own role, have been used in a wider variety of subjects, including business and management studies (e.g. Brown, 1994; Herremans & Murch, 2003) but predominantly in small group teaching. However I have not been able to locate any literature that describes the group role-play method I present here used in large group teaching.

My assumption, based on actual experience and a survey of literature to date, is that group role-play could be a teaching and learning method that facilitates peer to peer interaction and learning (e.g. engagement in higher cognitive processes). The small group settings provide students with more opportunities for peer to peer interaction (Biggs, 2000). The role-play maximizes student activity, relevance of material, interest, and discipline (Livingstone, 1983). It also provides students with an opportunity to demonstrate their understanding, explore their views and develop deeper understandings of concepts and theories (Aubusson, Fogwill, Barr, & Perkovic, 1997), in other words, to engage in higher cognitive processes. The aim of this research is to examine how my action - the introduction of group role-play - affected peer interaction in a large class of students and to consider the perceived benefits to learning that it brought.

I decided to implement group role play in the OB session on 'Approaches to Organisational Behaviour'. I chose this session because 'Approaches to OB' is a theme often the least favourite among students because they perceive it to be 'too theoretical' and 'not of any relevance to practice'. It is not surprising because 'Approaches to OB' belongs to what Bryman (2008; 2007) classifies as 'grand theories', i.e. theories which focus on a more abstract level of explanation of phenomena. Even some management experts have questioned the practical relevance of OB theories (Hosie, 2009). Yet they are very relevant. For example, the ideas of scientific management, one of the approaches to OB, has strongly influenced how work has been organised in industrialised countries for almost two centuries. In my opinion group role-play could help students understand the practical application of different approaches to OB. Therefore I did the following:

In the first session of OB, all students were split into seven groups. Each of the groups had a specific task to complete and a role to play. One group were 'The Entrepreneurs' who had to come up with an idea for an organisation. Other groups ('consultants') had to represent six different approaches to organisational behaviour. They had to become 'experts' in their approach, ready to give advice to the entrepreneurs on how to run their organisations. In this respect the role-play to some extent replicated a real-life situation that students might encounter in their practice. I also emphasised that it is highly important to imagine oneself in the role as the representative of a certain approach or as an entrepreneur and to stay in that role even if it means promoting ideas that are against one's personal beliefs. In the following OB session, the entrepreneurs presented their idea of an organisation. The consultant groups were given three questions they had to provide their answers for, based on the approach they were representing.

4. Research methods

4.1. Action research approach

In this project I used the 'intuitive proactive' action research approach (Wragg, 1994) because I thought I knew what needed to be done and so I implemented an intervention and evaluated it.

Action research was the approach best suited to my professional context and beliefs and the research problem I was investigating. Firstly – and most importantly - unlike other research approaches, action research involves *action and research* (Dick, 2000). I subscribe to the notions of 'reflective practitioner' (Schön, 1983) and 'teacher as a researcher' (Zuber-Skeritt, 1992) and strongly believe that as a professional educational practitioner I have to study my own practice and reflect on my actions in order to continuously improve it. Action research is an excellent tool to implement these values into practice.

Secondly, this research project was a natural continuation, and yet another cycle, in a larger action research project where I had focused on evaluation of actions undertaken to facilitate peer to peer interaction and learning. Therefore, an action research approach, which is cyclical, focused on practical problem solving and development of practice (Bassey, 1998; Costello, 2003; Dick, 2000; Frost, 2002; Zuber-Skeritt, 1992) was a natural choice.

4.2. Data collection methods

In this research project I used qualitative research strategy because it is inductive and allows for the complexity of the research situations (Creswell, 2009). I used a mini-survey with open-ended questions to collect students' own perception of the effects of group role-play on their peer to peer interaction and learning. After explaining the purpose of this study and obtaining informed consent, I gave each student a piece of paper and invited them to answer two questions:

- 1) In your opinion, what were three main benefits of group role play? ;
- 2) What are the three things that should be done differently if the group role play is used again in a similar session?

4.3. Participants

All fifty students in the OB session were invited to participate in this study. Five of them left the class during the session before the data collection was conducted and five decided not to participate. Therefore, in total forty responses were collected.

4.4. Data analysis methods

To analyse data obtained in this study I employed a categorising and coding strategy described by Stringer (2007). Using this procedure I identified units of meaning within the data and organised them into categories and themes that summarised the perspectives of participants. As suggested by Stringer, to minimise the tendency to conceptualise and interpret students' feedback through my own perspective (or to reduce the researcher's bias in terms of Costello (2003), I applied the verbatim principle, using terms and concepts that were taken from the words of the students themselves.

4.5. Ethical considerations:

As this research project included the involvement of participants (students), a number of ethical issues, highlighted by Stringer (2007) were addressed and the research proposal was approved by the ethical committee at the university where this research was conducted. The students were asked to provide a written consent for participation in this study. All data collected were kept anonymous and confidential. Students provided written feedback on the

session by writing their comments on a piece of paper, without identifying themselves. Participants were informed that if they wish to withdraw from the study at any time they are free to do so, and if they wish, all information they have given will be shredded. Participants were able to contact me at any time via the e-mail address or ask me any questions during the session.

5. Data collection, analysis and interpretation

When I reflected on the session into which I introduced the group role-play, I wrote in my teaching research diary that it felt to me that this session 'was very intensive'. There was non-stop activity. Students were so engaged with each other and their activity that most of them skipped the breaks. The consultant groups began to present their advice to the entrepreneurs and intensive debates about the applicability of their advice to the organisation developed. I observed there was an active peer to peer interaction in the whole group, not only among the members of working groups. Students asked questions of each other, tried to reach joint conclusions, gave clarifications and offered explanations. So to me it seemed that group role-play has indeed achieved its aim to facilitate peer to peer interaction and as a consequence, engagement in learning. But were these observations my 'researcher's bias'? Did students perceive the outcomes of the group role-play in a similar way? Students' responses to the survey provide some answers to this question.

5.1. Perceived benefits of group role-play

5.1.1. Peer interaction

Students' responses suggest they thought the group role-play encouraged their interaction through high levels of (inter)activity, engagement and participation and involvement in group work in the class. Several students wrote that the session "...was very interactive" (D¹, K, L, KK), "very interactive and impressive" (R, T, BB) and that they "enjoyed the interaction between teams in different groups" (I).

Group role play gave students room for an active participation and engagement which in turn created the high interactivity highlighted in their responses. According to students' responses, the role-play was "very engaging" (B, Y), and some students perceived "activeness in questioning and answering questions" (K) and "the level of communication between students" (U, GG) as the main benefits of the role play. Other simply liked it: "Really like the nonstop activity" (J).

Several students pointed out that they like to participate ("I like to participate" (I), "Really like to be involved" (J, HH)). It seems that the role-play not only "... gave room for individual participation" (LL) but also actively encouraged it: "the presentations put everyone on their feet to contribute and participate" (D), "encouraged active involvement" (CC).

Group work on which the role-play was based was one of the possible reasons for high interactivity and engagement and students liked it: "Liked working in groups" (I) "group work" (M), "teamwork" (S), Z, AA, GG), "Enjoyed working in groups. Enjoyed listening to others" (H). One reason why students liked the group work was that they perceived that in group work they "[group work]: could share knowledge" (HH).

An unintended benefit, highlighted by student responses was "Group work helped me to know more people" (T). This was very important benefit as the students had just started their

¹ Each student's questionnaire was coded using letters.

first term and often did not know each other, especially if they studied in different programmes.

5.1.2. Learning benefits

According to the students' responses, the group role-play also helped their learning. The perceived learning benefits of the group role play could be divided into four groups: facilitating understanding, putting theory into practice, engaging in social learning and informing.

Several students pointed out that, in general, the group role-play "*Provides for better understanding*" (H). More specifically, one student replied that group role-play "*...aided understanding of the complexity of studying organisational behaviour*" (LL). Understanding was aided by the necessity to prepare for the session: "*It is easier to understand some theoretical views because we have to prepare on session*" (JJ), "*the preparation helped me to understand better the topic*"(DD).

An important learning benefit emphasised by several students was that the role-play helped them to put theory into practice: "*With the practical case we had the opportunity to put theory in real life*"(EE, JJ), "*What I learnt from these seminar is by using different approaches in tackling problems and solve them*" (F).

Some responses indicate that a social learning process was going on, as: "*I learned about many different ideas and opinions from different people*"(Y), "*Enjoyed the part when we were asking questions to the groups*" (Z), "*...like to hear how other colleagues think*"(DD), "*Easier method of learning; able to argue and debate on ideas*"(X).

Finally, students thought that this session where the role-play was used was "*very informative, as every person has a different topic to study*" (V) , "*within one lecture we could get/give overview of so many different approaches*"(E).

5.2. Suggested improvements

5.2.1. Mixing methods

Most importantly, although the feedback from the students was predominantly positive, some responses suggest that the group role-play is not the ideal teaching and learning method suited to everybody's learning needs and preferences and therefore it has to be mixed with other methods, especially lectures.

Some students, despite enjoying the interactivity of the role play, either preferred lectures or would like to see interactive sessions mixed with lectures. "*It's good to participate but I think it is possible to participate in a lecture too, because there are a lot of questions to be answered too. Therefore I prefer a lecture! I learn more from a lecture!*"(P). A student who wrote "*Enjoyed working in groups. Enjoyed listening to others*", also wrote "*Enjoy lecture better and not sessions*" (UU). Other students definitely preferred lectures to interactive sessions: "*Prefer lecture with minimal presentations from other groups*" (BB). So, maybe the group role-play facilitates interaction and debate but is not necessary the best or most preferred method of learning.

Some responses indicate that, clearly, there is a need to use a mixture of teaching and learning methods, as suggested by some students: "*Lecturer should introduce the theory at the beginning*" (JJ), "*A bit of lecturing in between from the lecturer*" (U). It seems that students expect the lecturer to present the theory to them, as two students pointed out: "*Maybe it will be better if some theory is being told at the beginning and our team work because we don't understand each other very well*"(A) and "*We didn't get the theoretical*

views”(L). Apparently, a contribution from a lecturer is expected, as “*I like the feedback from the lecturer on our presentation as we presented*” (KK).

One response: “*Only learned in depth about one approach, didn’t learn in depth from others presentations*”(BB) “ indicated that I have not made it explicit that the main aim of the role-play in this session was to aid learning, not to provide a detailed, in-depth analysis of each approach and that it was designed as a supplement to independent learning.

5.2.2. Implementation of role play

Another group of suggested improvements were related to the process of implementation of role-play in a large group of students. The analysis of the responses highlighted two important issues: contribution from students and time and group size management.

5.2.2.1. Students’ contribution

Numerous comments were made on insufficient or poor quality contribution from some students. The most common issue was that students perceived that not all of their group mates had contributed to the group work. The typical comments were: “*Less group work outside the class please, because some people do not participate or show up/plus it takes a longer time to do the work* “ (N), “*Not all students get involved!*”(O, T), “*Everyone should have to speak at presentation*”(AA), “*Not everyone gets involved in the activity*”(CC), “*Some contributed, and some didn’t* “(II). The only suggestion how to address this issue was that “*Attendance should be properly monitored in case of absentees are not marked present*” (K).

Other comments related to the perceived quality of contribution. Some students found it difficult to understand each other because of poor presentation skills and/or different accents: “*It is difficult for me to listen to many accents and follow their ideas*” (JJ), “*Unable to digest quickly as some presenters tend to talk quickly*” (X), “*I find it little hard to understand everyone who was talking about his/her approach*” (Z). Some suggestions were made that pointed out to the need to improve students’ presentation skills: “*Maybe some student should say their opinion rather than just read on their copies or notebook*” (MM). “*Maybe some groups should write down some key points on blackboard or PowerPoint* “(MM).

5.2.2.2. Time and group size management

Student responses also suggest that when organising a group role-play it is also important to think carefully about the number and size of groups and also time management.

It was clear from the comments that students thought that groups of around eight participants per group were too large (“*the group was too big*”(II) and some of them wanted “*smaller groups*” (AA). One obvious solutions can be to have more but smaller groups, but some students thought that already there were “*too many groups*”(CC; DD), therefore other solutions need to be found.

Students also felt that there was not enough time for the role-play (“*Time constrains*” (V), “*lack of time*”(X)), and especially for the preparation of group presentation “*not enough time to prepare a PowerPoint presentation*”(O), “*too small time for the group preparation*”(E)). Some students found it “*Hard to follow other presentations when we had not yet presented ours*”(E). As the result, several suggestions to allocate more time (“*more time needs to be allocated*” (C), “*more time*” (S)) were made. Yet time allocation should be managed carefully, as one student pointed out that presentations “*could be boring if too long*”(G).

6. Conclusions and discussion of findings

So, does group role play affects peer to peer interaction and what perceived learning benefits are associated with it? The findings from this research indicate that group role play, indeed, provides opportunities for and encourages students to engage in communication with each

other. Moreover, students also perceive that it is informative, aids their understanding and helps them to relate theory to practice. In this respect, the results of this project are in line with the findings from other studies on small group work, role play and peer interaction discussed in the literature review.

However, this project also highlights some problem areas that a tutor should keep in mind when using group role play. Most importantly, the group role-play is not the ideal teaching and learning method suited to everybody's learning needs and preferences and therefore it has to be mixed with other methods. This project indicates that some students prefer and expect to have lectures. I also have to think carefully how to ensure that all students contribute to group role play and how to keep the number and size of groups manageable. Finally, group role play in a large group of students requires considerable time and I have to find a better balance between allocating enough time for group work and presentations and not letting students to become bored.

7. Evaluation of the research process and practice implications

The action research approach provided me with rich information to improve my practice. However, '...[t] here is no such thing as a 'perfect' research project' (Costello, 2003, p.82) and this project is not an exception. The major shortcoming is that because of poor time management I did not obtain feedback from the students, thus violating one of the main defining characteristics of action research – involvement and empowerment of research participants (Denscombe, 1998). Therefore despite my attempts to avoid interpreting students' responses through my perspective, I cannot be sure whether I have avoided the researcher's bias. One possible solution might be to send students this report and ask for their feedback.

Although it the generalization of the findings is not the purpose of the action research framework, an interesting question is whether group role play could be used as a teaching and learning method in other modules and subjects. The findings from this study indicate that this could be possible, especially when the purpose of learning and teaching activity is to help students to compare and contrast and to apply to real life situations different theoretical perspectives. For example, group role play might also be useful as a teaching method in psychology when discussing different approaches in psychology. Similarly group role play might also help to demonstrate the practical use and similarities and differences of various approaches to learning in educational sciences. In general, this method has a potential for an application in situations where students have to learn about various theoretical perspectives that on surface are "too theoretical" and are not easily seen by learners as relevant to the practice.

8. Action plan

The findings from this research project suggest that group role-play is a suitable teaching and learning method to facilitate peer to peer interaction and learning in a large group of students. Therefore, I will definitely use it in my practice. However, following the feedback from the students I will introduce some modifications:

- Firstly, I will mix the role-play with a mini-lecture. This will serve two purposes: 1) it will address the needs of students who prefer to have a lecture than just an interactive session with role-play; 2) it will provide students with the 'theoretical view' they expected.

- Secondly, I will introduce changes in the organisation of the group role-play. In the first OB session, students will be split into groups and will receive their

preparation tasks as before. 'The entrepreneurs' will have to present their business idea to other students at the end of the second session. Other students ('consultants') will present their suggestions to 'entrepreneurs' in the third session. This will give them enough time to prepare their presentations well and to practice them.

- Finally, to reduce the group size and to motivate students to prepare better, I will introduce additional roles of 'presentation experts'. The task of the 'presentation experts' will be to develop (before the session) a list of criteria according to which they will evaluate the presentations and then use a student response system to vote.

9. References

- Anderson, T., Howe, C., Soden, R., Halliday, J., & Low, J. (2001) Peer interaction and the learning of critical thinking skills in further education students. *Instructional Science*, 29(1), 1-32.
- Aubusson, P., Fogwill, S., Barr, R., & Perkovic, L. (1997) What happens when students do simulation-role-play in science? *Research in Science Education*, 27(4), 565-579.
- Bassey, M. (1998). Action research for improving educational practice. In R. Halsall (Ed.), *Teacher research and school improvement: opening doors from the inside* (pp. 93-108). Buckingham: Open University Press.
- Biggs, J. (2000) *Teaching for quality learning at university*. Buckingham: SHRE and Open University.
- Brown, K. M. (1994) Using role play to integrate ethics into the business curriculum a financial management example. *Journal of Business Ethics*, 13(2), 105-110.
- Bryman, A. (2008) *Social research methods* (3rd ed.). Oxford: Oxford University Press.
- Bryman, A., & Burgess, E. (2007) *Business Research Methods*. Oxford: Oxford University Press.
- Cohen, E. G. (1994). Restructuring the classroom: conditions for productive small groups. *Review of Educational Research*, 64(1-35).
- Costello, P. J. M. (2003) *Action research*. London: Continuum.
- Creswell, J. W. (2009) *Research design: qualitative, quantitative, and mixed methods approach* (3rd ed.) London: Sage.
- Denscombe, M. (1998) *The good research guide for small-scale social research projects*. Buckingham: Open University Press.
- Dick, B. (2000) Postgraduate programmes using action research. Retrieved 16 November, 2010, from www.scu.edu.au/schools/gcm/ar/arp/actlearn.html
- Frost, P. (2002) Principles of the action research cycle. In R. Ritchie, A. Pollard, P. Frost & T. Eade (Eds.), *Action Research: A Guide for Teachers. Burning Issues in Primary Education* (pp. 24-32). Birmingham: National Primary Trust.
- Herremans, I., & Murch, R. (2003) Multidisciplinary Decision Making Through Experiential Learning: Perspectives from Practical Trials. *Innovative Higher Education*, 28(1), 63-83.
- Hosie, P. J. (2009) A future for organisational behaviour? *European Business Review*, 21(3), 215-222.
- King, A. (1990) Enhancing Peer Interaction and Learning in the Classroom Through Reciprocal Questioning. *American Educational Research Journal*, 27(4), 664-687.
- King, A. (1998) Transactive Peer Tutoring: Distributing Cognition and Metacognition. *Educational Psychology Review*, 10(1), 57-74.
- King, A. (2002) Structuring Peer Interaction to Promote High-Level Cognitive Processing. *Theory into Practice*, 41(1), 33-39.
- Livingstone, C. (1983) *Role play in language learning*. New York: Longman.

- Lord Browne. (2010) Securing a sustainable future for higher education in England. An independent review of higher education funding and student finance [Electronic Version], from www.independent.gov.uk/browne-report
- O'Donnell, A. M., & King, A. (1999) *Cognitive perspectives on peer learning*. Mahwah: Erlbaum.
- Pressley, M., McDaniel, M. A., Turnure, J. E., Wood, E., & Ahmad, M. (1987). Generation and Precision of Elaboration: Effects on Intentional and Incidental Learning. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 13(2), 291-300.
- Robson, C. (1999) *Small-scale evaluation: principles and practice*. London: Sage.
- Shön, D. A. (1983) *The reflective practitioner*. New York: Basic Books.
- Stringer, E. T. (2007) *Action research*. London: Sage.
- Vygotsky, L. S. (1978) *Mind in society: the development of higher psychological processes*. Cambridge: Harvard University Press.
- Webb, N. M. (1989) Peer interaction and learning in small groups. *International Journal of Educational Research*, 13(1), 21-39.
- Webb, N. M. (2010) Peer Learning in the Classroom. In P. Peterson, E. Baker & B. McGaw (Eds.), *International Encyclopedia of Education* (pp. 636-642). Oxford: Elsevier.
- Webb, N. M., Ender, P., & Lewis, S. (1986) Problem-Solving Strategies and Group Processes in Small Groups Learning Computer Programming. *American Educational Research Journal*, 23(2), 243-261.
- Wragg, E. C. (1994) *An introduction to classroom observation*. London: Routledge.
- Zuber-Skerritt, O. (1992) *Professional development in higher education: a theoretical framework for action research*. London: Kogan Page.