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Encouraging and nurturing student initiated collaborative and multi-contributory projects

Abstract

Student collaborations are an invaluable learning experience and give the student a greater understanding of the real life working environment. Team projects and collaborations not only develop understanding of team roles but can give the student opportunity to reflect on their own skills and how these contribute to a greater project outcome. It is widely accepted that innovation and creativity flourish in collaborations between different expertise. Here lies the teaching challenge of how we bring together two or more groups to work in a more collaborative way. Team projects are set by most undergraduate courses, but come with challenges for both student groups and tutors. Often the focus is on the team roles and dynamics than real consideration for the contributory skills of the individuals and this is certainly the case with in-course team projects. The findings presented are based on the supervision of a number of final year student projects that include self-initiated collaborations. The projects themselves have been confidently developed but with varied contributions.

The paper presents an evaluation of the teaching and learning conditions that have contributed to creating and fostering a more collaborative culture. It reviews both the student and the tutor roles in the process of developing projects from embryonic idea to final outcome. The projects reviewed range from straight forward skills trading and outsourcing to multidisciplinary partnerships. It presents a critical analysis of the assessment framework and tutoring process that has supported the collaborations along with the monitoring process of multi-contributory projects that critically informs to the final assessment. The research reviews the evidence presented by the student of the management process they have employed to control their multi-contributory projects and make clear their own role and contributions to the final project outcome.

The purpose of this paper has been to reflect on the teaching structures that have contributed to creating an open environment where students feel confident to discuss ideas and challenge the previously determined dictate of the major project. It also considers the students learning experience throughout the undergraduate course that has contributed to developing their knowledge, confidence and skills to manage a collaborative approach.

Introduction

The teaching challenge that is the subject of focus is how to promote collaborations in undergraduate cohorts. This is nothing new, team projects often play an important role in undergraduate courses but these are instigated and managed by tutors. This study looks primarily at student initiated collaborations and considers the teaching and learning framework that has supported and even promoted such projects.

Firstly it is important to define and understand what we mean by collaborations. The basic principle is based on the notion of working jointly with another. The study identifies three types of collaborations, partnerships, multidisciplinary partnerships and contributing specialists which includes skills trading/outsourcing.

Team projects are commonplace in a professional industrial setting and in education are used for the purposes of assimilation of real work based scenarios. These simulation projects involve creating an environment that has it's own rules, roles and processes. The purpose is for the project group to look at the interlinking, interconnections and dynamics of the individual behaviours of the team and how these have contributed to the overall experience and outcome (Rogers J. 2007). Group work is often confined within a particular course and module. These are relatively easy to set up and manage albeit with varying results. It is not in course and module confined group projects that is the concern of this paper and therefore will not be referred to further. What is relevant is the more complex inter-course collaborations and student initiated collaborations. The paper looks at both tutor initiated (structured projects) and student initiated collaborations (unstructured projects) with a view to understanding how the curriculum design aids the development and successes of collaborations and the teaching and learning proponents that are required to facilitate the process. In courses where projects are the key approach in the teaching and learning then the curriculum integrates projects at all levels moving from structured to unstructured (Henry J. 1994). This approach allows students to steadily increase their skills and reflect on their experience and is based on the experiential learning model.

Collaborations that extend beyond the boundaries of a controlled project pose a number of real challenges in managing and keeping control and therefore is a high risk approach for both tutor and student. However the returns can be highly innovative. The research has taken place in the School of Art, Design & Architecture at the University of Huddersfield.

The methodology

The research approach has been to review both the student experience through their Final year projects and the tutor role. The student experience was reviewed by way of student logs, diaries, and management files produced in the Final year. Interviews were conducted to explore the wider influences and reflections on the learning processes. This also served to qualify the level of self reflection and insight that the project diaries presented. The project reflections vary from objective commentary to personal reflection. Tutors were interviewed and teaching structures and process reviewed for Final year.

Background

Project work is the accepted teaching process on art and design courses. The research looks at collaborative projects that have emerged from the undergraduate degree course Fashion, Communications & Promotion based in the School of Art, Design & Architecture at the University of Huddersfield. The course was established in 2004 with the first graduating cohort in 2007. 2010 has seen the most significant increase in collaborations and this paper sets out to explore the teaching and learning conditions and questions why without changes in curriculum collaborations are now happening.

What is a collaboration and how does it differ from a team project?

It is probably easier to define what a team project is then look at to understand how collaborative projects may differ in outcome. Team projects central premise is the 'team' taking the approach that two heads are better than one. For a team project each team member is to contribute to the project with a high degree of equality even if input measured is not equal in reality it is communicated as equal. The reason for this is in the output. A team project output is only possible by the coming together of the team and the collective effort creating an output that is difficult to achieve on ones own. A team project therefore does not necessarily have identifiable individual outputs. A team project is to integrate the individual inputs cohesively interconnected to the point that the team output can not exist if the individual inputs are pulled away. Collaborative projects include individual inputs but allows for these to have clear individual identity. This means that collaborative projects do not work on the basis of equality and accept that individual contributions of value may be greater or lesser than each other. This by no means lessens the output from collaborative projects and can be equal to or even result in greater outputs than team projects. This is because collaborations allow for the individual agendas to be managed in a more transparent way than team projects allow.

Importance of collaborative projects to learning

Why are collaborative projects important to the learning experience of the undergraduate? Our degree programmes work on the premise of creating independent learners and are to promote the concept of life long learning. The

phrase 'independent learner' is problematic as our learning has predominately up to this point taken place in a very social and collaborative environment for our learning has been in a 'classroom' setting. The notion of independence is solitary and the method for assessing the knowledge gained results in a set of independent individual results. This puts pressure on the student to have total ownership of the output/product to demonstrate 'their' own independent learning and yet learning usually takes place in collaborative environments through the inter-connectivity of both knowledge constructs and experiences of the learners in learning discovery and exploration. The prime actor for experiential learning is discovery the learning takes place throughout the journey and not necessarily enlightenment at the end of the journey. Helms & Haynes (1990) study of dysfunctional groups identifies that the experience of group work regardless of group successful functionality is an excellent learning environment. The journey is social and includes interaction and interconnectivity. The journey is unique to each person therefore the learning experience is unique but as a result of collaborations this then can be considered independent learning which has been dependent on collaborative learning experiences.

The collaborative project approach presents multidimensional challenges. This gives students a potentially rich learning experience with the aim of equipping the student with the skills required for the dynamic and complex world in which they will be working in. Barnett and Hallam (1999) referred to this working environment as 'supercomplex' and argue that this demands a pedagogy that can prepare the students in a way that they are able to adapt to the conditions imposed by this supercomplex environment. They identifying three key aspects that the pedagogy should address. Firstly a supercomplex world is a world without stable meanings, it is a world where handling uncertainty, ambiguity and contestability are at the fore. Secondly the world despite its super complexity demands purposeful action. This creates a need for students to understand and learn from engagements with others creating demand for learning experiences that expose them to these engagements. And thirdly the need to bring together the student and their learning that the learning is not outside of the person but is the means by which a portion of the external world is appropriated, bringing together the learning process and the learning. This means that lecturers engaging the student in the concept of lifelong learning and developing a resilient self need to focus on the students sense of their own worth and self confidence (Barnett and Hallam, 1999). This raises the importance for projects that engage the student with differing degrees of complexity and equips them to manage this and empowering them to purposefully respond and take action.

Final year students drive for independence, results in less team projects and less collaboration. Students express anxiety about team projects that have the potential for other students i.e. team members to affect their own individual educational result set. This anxiety increases as the result pressure increases in the final stages of the

degree programme. The process of managing the student experience and the process of becoming an 'independent learner' can leave little or no scope for team or collaborative projects as the risks are high. However the complex environment in which graduates will work is collaborative. There is also much evidence relating to the virtues of working collaboratively to achieve greatly enhanced outcomes. We therefore need to find ways to manage these opposing agendas by seeking to manage the risk but not eliminate it.

Education assessment of team projects has to be based on some form of tangible evidence generated by the team this may also include documentation of each individuals input so that the equality or inequalities in the team effort can be measured. This individual assessment component should measure and generate individual feedback on student motivation, project engagement and individual skill. The focus of the team assessment is predominantly around the process and therefore the operational aspect of the team. The final output may be tangible but it is as a result of team working and therefore the individual contribution is not necessarily acknowledged by assessment of the final output alone.

Team Projects at Foundation level.
Team projects at foundation level are usually confined within a module and the team selection if left to the students is often constructed from friendship groups. It is important to allow this to happen at this level as the student needs to feel they have control and that they are allowed to choose. Often when the team selection is only based on 'friendship' alone this can have affect the functionality of the group depending on the project task. However the team project process allows for team issues to come to the fore. These projects are very structured and controlled by the tutor.

Team Projects at Intermediate level.
At intermediate level the team projects start to incorporate more complexities and some even incorporate collaborative elements. Through discussions with tutors three different types of tutor collaborations at intermediate level have been identified.

1. Inter subject collaboration – the project is unified by subject context. *Project example Fashion design courses & Fashion communication & promotion course have a project in which the designs for a collection are developed and garments produced in term one by the design teams and in term two the promotion teams develop a marketing and promotion strategy and produce promotional material. This was tutor initiated.*
2. Multiple course collaboration – different projects unified by industry context. *Project example Textile design students worked alongside Transport design students they were paired together for a design project for Jaguar. External initiated project.*

3. Specific collaboration module – context is open. *Project example Surface design for Fashion & Interiors course have within their programme as a core module the 'collaborative project module' they collaborate with Fashion, Textile Buying, Management and Retailing course who are not working on the same module.*

The learning outcome for intermediate projects is the understanding of team work, process management and personal skills that contribute to working collaboratively. Significantly the output will be greater than an individual can produce within the time constraints. It could be argued that these projects aim to address the second issue Barnett and Hallam (1999) identified by purposefully creating projects that create complex engagements with other students that have to be managed in order to produce a successful outcome. This approach reflects more closely industry based interdisciplinary team projects. This also raises the student's awareness of the agendas of others and creates a learning opportunity for students to develop approaches to manage individual agendas of team members.   However none of the year two intermediate projects have lead to a significant increase in final year student collaborations.

Tutor initiated projects have a number of elements of the team project defined by the tutor so for example at this level often the brief includes clearly defined objectives, process for monitoring and tutor support for the generation of the outcome is often very detailed. This means that the team project has to develop within a very formal frame work that is governed by the tutor and is semi-structured and is the mid phase in preparing the student for the unstructured project in their final year and as Henry (1994) notes that early experience of structured project based learning is important for equipping the student with the skills to manage later unstructured projects.

Students working on a tutor initiated team projects often defer all the team conflict and communications issues to the tutor. The student expectation is that the tutor will resolve these and tell the team how to act therefore is expected to instruct. The tutor's role needs to be less 'instructor' and more a 'facilitator' so that the team can be encouraged to work through and resolve their issues themselves. The Jaguar project the tutor found that the student pairings (textile design student with transport design student) were managed by the students themselves very professionally, "It ups their game" N.Redmore (personal contact). Tutorials are used for this purpose and learning logs are used to document in a reflective manner the individual learning experience. At intermediate level team working structures and principles are in many cases introduced and the exploration and learning takes place in the process of doing the project. Learning logs are far more effective if the student has a framework that helps with a more objective and honest analysis and less an emotional personal outpouring. For this purpose team roles are explored through models such as Tuckman and Belbin.

Project work utilizes the experiential learning precept and requires the action to be repeated as the learning experience of the project should be reflected on then used to change and modify the approach for a follow on project developing the learning (Kolb, 1984, Honey & Mumford, 1992). The skills and learning gained from the experience of the intermediate co-operation and collaboration project if not followed in final year will not be further developed. This supports the need for a team project in the final year designed to develop the skills and learning further by increasing aspects of complexity. This is especially important considering after graduation they are highly likely to enter collaborative working environments.

Team projects in FINAL YEAR
Projects in Final year are unstructured giving the student greater autonomy. However as mentioned earlier there tends to be less team projects in the final year of a degree course and more emphasis is placed on developing the individual skills. Interviews with Fashion communication and promotion students who had incorporated collaborations in their major project revealed that they placed a lot of importance on the team project which takes place at the beginning of their final year.

"The magazine project opened my eyes to other people's strengths and helped me to understand my own strengths".

"The magazine was great preparation for my project"

"The Magazine project taught me how to manage the inequality of motivation in group projects, I learnt to take a step back"

Final year team project – the magazine project
The project itself is to produce a magazine. The project runs over the first six weeks of term. As a team project the outcome cannot be achieved in the time individually. This raises the need and motivation for the interdependency. Although this project has been run over two courses and the students have the opportunity to mix with others on the whole they stay with their own course peers. This familiarity has benefits for such an intense project that demands equal input from all of the team as it eliminates the 'getting to know you' part of the process thus speeding up the team bonding. Teams are encouraged to outsource elements of the production, this directly encourages what Sacramento, Chang & West (2006) describe as boundary spanning. With a six week project there is little time to source the components that the team may not be able to produce themselves this results in two approaches. Firstly a greater reliance on personal networks of the team members and secondly a more reflexive approach to devise a magazine that utilizes the team skills and does not place dependency on outsourced elements. It can be argued that the first approach relies on a higher degree of self confidence within the group than the

second approach. However it was found that the less confident students tended to put greater reliance on outsourcing elements and also put higher levels of trust in their contributing collaborators. The lack of self confidence within the team has resulted in a greater confidence in others (collaborators) outside the project team. This has resulted in weaker management of the collaborations and even last minute crisis as they have not checked on progress.

Final year collaborations on 'Final Major Project'

Three types of collaboration have been identified in student final year major projects.

1. Partnerships – an equal partnership between two students on the same course. *This can be very complex to manage as there has to be enough scope in the project for both to have clearly defined roles.*
2. Multidisciplinary partnerships – a partnership between two students on different courses. *Each student has their own course specific outcome but benefit from working on one overall project. This has the benefit of really expanding their network. This adds to the complexity of managing this project and their individual agendas.*
3. Contributing specialists including skills trading/outsourcing – this is the utilization of another's skill to add to the overall project. *This may or may not be another student. The complexity is varied and depends on the ability of the student to manage this dimension to their project.*
Those in partnerships also used contributing specialists adding even greater complexity to their project.

Collaborations have been encouraged from the first inception of the final year modules and over the years there have been collaborations in the form of contributing specialists from most disciplines within the school of Art, Design & Architecture. Promotion students have been working co-operatively with students from architecture, art, communication design, fashion design, interior design, multimedia design and textile craft. The modular structure and delivery pattern on the course has not significantly changed in this period. This throws up the question of why now have we seen more collaborations this year? 50% of students on the course have employed a collaborative aspect to their Major Project.

Influencing factors on final year collaborations
The most obvious influencing factor is the placement as all but 1 of the collaborating students had taken the sandwich route and completed at least 48 weeks of an industry placement. The placement prepares the student for their final year of the degree programme in a number of ways.

- It develops their self confidence
- It broadens their social networks (informal network)
- It builds their professional network (formal network)
- Gives them greater understanding of context/realism
- It strengthens their ability to manage set backs
- Develops their independence
- It develops self awareness of their own skills and attributes as they are contributing to a professional team.
- It raises their own professionalism

The year in industry is an important experiential learning opportunity where the student is testing their skills and consolidating their knowledge and understanding of their subject. Their social and professional network development gives them when returning to final year a support system and knowledge network outside of their academic environment to tap into. The experience of understanding the industry context in which they are to work in helps them to see the bigger picture and gives potential for making innovative connections. Working in a professional team contributing to the production of professional promotions and relations heightens their awareness of the level of quality finish and professionalism that they need to apply to their own work.

On reviewing the students project progress through their project management records those students who did not undertake an industry placement found that their projects were slower to shape as they lacked the understanding of the 'bigger picture'. They were also less confident in their own abilities and this impacted on their ability to see how best they could collaborate and benefit from another's input. This slower recognition of opportunity for collaboration was further impacted by their limited reach networks. Often they relied on 'cold' contacts and opted to approach by email and wait for the response. Whereas the more confident sandwich route students would use their networks to identify people that maybe able to help or put them in touch with somebody else. The connection between two elements of a network is known as a 'tie strength'. Strong ties are the result of greater interaction, emotional intensity and reciprocity between them. Networks are made up with ties from strong to weak, the broader the network the greater the number of weak ties within it. The benefits of 'weak ties' is that there is greater variety in the range of links (Sacramento, Chang & West. 2006). The sandwich route student's network has been broadened by their experience on placement and is likely to be made up of an increase in 'weak ties' they use their newly increased network to reach out further to find a willing collaborator and by doing this they are utilizing a warmer route via known contacts.

There are benefits of combining in final year the returning placement cohort and the ordinary cohort together. These benefits are the transference and sharing of

knowledge and understanding gained from the placement experience. This can raise the levels of expectation and professionalism in both cohorts. The ordinary 3 year straight degree students have a different advantage that they can share this comes from their continuance in an academic environment and therefore can result in greater confidence academic writing an aspect that returning placement students often state as an area of anxiety when returning to their academic studies.

The benefits of taking a placement year clearly have some influence on the student's ability to initiate collaboration and manage it. However, when interviewing the students many referred to the influence of the first final year project (magazine project) and how that had really helped them with managing the complexity of their major project. This project above all others is referred to as having a huge benefit to them and their understanding of their own abilities and skills. One of the notable responses was how proud they were of the end product. To them it set the standard of what could be achieved. Arguably this helps both returning placement student and the straight 3 year degree students.

The module delivery pattern has not changed, the learning outcomes have remained the same. On closer review of the Magazine project which is the outcome of a module called project management and communications the focus has shifted. The focus when the course was based in a design business subject group was on project management and teamwork with the magazine as the project vehicle to deliver this. Two years ago the course was repositioned as part of a fashion subject group it is then that a shift in focus can be identified so that the magazine is the focus through which the project management skills are developed and team-working skills become a by-product of the production of a magazine. This shift maybe subtle in emphasis but it gives a real context to the team work and need for co-operation.

Conclusion
There are many influencing factors on the potential for successful collaborations some of which are easy to identify as having a direct and powerful impact and other factors that are subtle and even obscure. This paper set out to explore how to promote collaborations in undergraduate cohorts. It has been difficult to unpick the student collaborations that have taken place this year but the two key influencing factors identified as being critical in all collaborations were the students self confidence and their networks both informal and formal. These factors alone have not produced effective collaborations. Students that have grown in confidence and have high levels of confidence in their own skills & abilities but who have restrictive networks struggle to find an appropriate collaborator. Those who have used their networks and have the appropriate connections but do not have the self confidence in their own abilities and their project do not know what they need to ask of the collaborator and do not have the confidence to explore the collaboration opportunity or the confidence to manage it.

Issues such as individual anxiety of students in final year to perform at their very best and the demands for demonstrating their independence in the final stages of their course can become barriers to co-operation and collaboration for the student. These can also be barriers for the tutors as student collaborations are complex by nature and therefore demand of the tutor skill in facilitating the student to manage the associated risks. The team project in final year of the Fashion, communication and promotion course is referred to by students interviewed as being the most important and influential project that has helped them with their own final major project. Those students who did initiate their own collaborations identified the team project as helping them with project management skills and time management, self awareness of their own skills and attributes. The team project contributed greatly to building the student's confidence in their ability to produce a professional output and prepared them for managing complexities of collaborations in their final major projects.

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