

# **WORKING TOGETHER, LEARNING TOGETHER**

## **Methods & Process in Multidisciplinary Group Projects**

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### **Introduction**

Group projects can be mistrusted by both students and academics. Administration, organisation, timetabling and assessment can be difficult. Students and academics alike can often feel that the logistics and the problems of team work become such major factors as to sometimes cloud the real subjects of study.

Yet team projects - particularly those involving multi-disciplinary teams - have a great deal to offer students, not least the experience itself.

This is particularly true for courses in areas of design, where an individual's creative ideas have to be developed, presented, accepted and adopted by an extended team before they can be fully implemented. In these disciplines, successful implementation demands the input of - and translation to and from - several other disciplines.

This pattern has its own variant in architecture. Whilst architectural education's main emphasis is usually on the quality of an individual's creative efforts, in architectural practice the emphasis is on the successful development and implementation of creative ideas by teams, including teams from different disciplines.

This case study describes a team project that recognises the importance of the contribution made by those other individuals and disciplines in a design team. Unusually, the way in which the student team does its work is also one of the subjects of the team's study, so that similarities and differences with practice can be seen.

### **Background**

This project has been in place for five years. It runs over one semester with a mixed cohort of level 2 architecture and landscape architecture students, full time and part time, numbering approximately 100 in total. Designed as part of a replacement to a more traditional professional studies course, the project was intended to help students learn about the context for practice in their areas, particularly focusing on how design ideas were realised through other people and other disciplines.

The same project and format - with different study subjects - has now been used with a group of approximately 80 full time level 1 students on an arts-

based course, mixing students specialising in product, spatial and media design.

What ties these disciplines together is that they all rely on the successful development and implementation of creative ideas. Whether those ideas are initiated by groups or individuals, they all have to be developed and implemented with the help of others. If students are to be successful in their future careers, being successful in team work - it is bluntly pointed out to them - is unavoidable.

The project asks students to research a particular project or practice, not from the point of view of what was produced, but how it was produced and who was involved in the process. They look for the teams behind projects and explore the ways in which designs were implemented. Students are asked to shift from looking at the individual commonly credited with the project idea to the team who implemented it. Collaboration, client and professional relationships, the impact of design decisions on procurement, construction, implementation and future proselytisation can all become significant issues and are often explored.

At the same time, the students are asked to monitor their own team's progress and working methods. They are asked to look for any elements in their project they can transfer to their own personal or team practice and to compare and contrast their team's working methods and performance with those found in the projects they are looking at. Consequently, demands for self-awareness and self-reflection are built in.

The project ends with two collaborative outputs. The team makes a presentation to the year and submits a single team report that describes both their findings on the researched project and their own experiences of working together. Watching the presentations, students learn about different ways of implementing a project and working in a group. While student team experiences vary, their difficulties are usually common: these are addressed by a student-lead question and answer session at the end of each presentation.

## **Teaching: Methods & Values**

In developing and teaching this project, there is a clear belief in what management theorists have labelled "the wisdom of teams": consequently, background teaching is - intentionally - limited.

Architecture and landscape architecture students have a session on professional roles in construction and conventional ideas about teams. Over three weeks they also watch 3 hours of video tracking the construction of a major project. The art and design students had a session on team roles, following the research of Belbin.

All students have a session which explicitly but simply talks about how designers often work and - most important of all - how teams work in arts,

design and construction. This specifically underlines how such teams can differ from much accepted management theory about teamwork. Student feedback suggests that this session is important. Not only does it establish the need to understand how particular professionals work at first hand, it also pre-empts some argument (eg about variations in team size.)

Then randomly mixed student teams are announced, following the principle that in practice you rarely get to choose all the people you work with. (The only exception to this has been to group part-time students into their own teams.) Most student teams tend to be multi-disciplinary by the nature of this selection process. They also vary in age and previous experience.

Teams allocate themselves study subjects by drawing lots from a hidden short list. The short list is altered each year but is always diverse. The current list ranges from large-scale urban regeneration to Segal self-build projects, from furniture design to landscape projects, from competition-winning schemes by upstarts to the modus operandi of major global practices, past and present.

Once the teams and subjects have been established, the inevitable student requests to switch teams, change subjects, exclude or include particular individuals on whatever grounds (attendance, age, language, domicile or sexual attractiveness) are all turned down. We think it's important that everyone is made aware from the start that there is no alternative to making their team work.

Teams are then given a date when they will have 6 minutes to present their findings to the rest of the year. Six minutes started as a logistics requirement to fit all the presentations into half a day, but has now become a key element. It forces teams to rehearse their presentations and edit them down for length. That means they must debate and decide what's important and what's left out. The rehearsal also means that everyone in the team sees the presentation. The time limit is audibly enforced with a beeping stopwatch. A little extra time is allowed if overruns are necessary, but most teams aim for the roar of admiration and triumph that greets a presentation that finishes smoothly and exactly at 5 minutes 59 seconds.

We ask each team to prepare sufficient copies of their report such that each team member can keep a copy and one non-returnable copy can be submitted to the tutor. We think it's important that each team member has a concrete record of what the team achieved, for future reference, interviews and their portfolios.

No time is allocated anywhere on the student timetable for this project to be done. Groups are warned at the start that being simultaneously stretched across other projects in different teams with differing priorities and deadlines (dissertation, technology submission, field trip, crit, plus this project's demands) mirrors the nature of much contemporary professional practice. They are then left to find their own ways of making it work.

The teams research their subjects using whatever material, time and resources they can collectively bring to bear over a period of approximately 6-8 weeks. Whilst this - inevitably - means that there will always be some students who cannot attend some meetings, it quickly establishes the need for a record of discussions and decisions made and for other means of communication to be used as well. Their research has, in the past, lead some groups to visit their practitioner's studios, meet clients and consultants and visit completed projects.

## Assessment

In this project, two items of work are assessed: the presentation of the team's findings and the single team report covering the same subject matter. Both presentation and report are in two parts: one half looks at the study project; the other looks at their own team's working methods and operation.

The presentations are assessed, like crits, on the day and in the heat of the moment: the reports are assessed in the cold light of the morning after.

Teams are advised that they should allocate their presentation time appropriately between the study project and their own work. They are told that both subjects and both the report and presentation are equally weighted. It is important that there is no suggestion to students that there are major and minor subjects.

With student numbers between 80 and 120, we typically have up to 14 teams. Although the time for the presentations is limited, setting up beforehand and the question and answer session afterwards mean the team presentations take up a substantial block of time - usually a long afternoon, stretching into the evening if needed.

Whilst the reports are tutor assessed, we have also experimented with peer assessment of the presentations, with a view to maintaining student involvement in the presentations throughout the long half day session. We have found that generally interest is maintained through the presentations without such artificial stimulants.

Since its inception, this project has been linked to an assessment method that asks students to assess the contributions made by their team colleagues to the team's performance whilst also allowing variations in team size. This means student teams cope with the late arrival or departure of students easily. We point out that teams of unequal size mirror a typical aspect of professional practice, where small and large practices compete like David and Goliath.

## Support Requirements

Only very limited academic support has ever been offered. The emphasis has always been on staff supporting the team if needed and the team supporting individual students. Tutor support takes two forms:-

We do not give individual tutorials in this project. Individuals who contact the tutor are referred back to their team. If requested, we will offer team tutorials, but we insist at least 75% of the group turn up: if they don't, the team's inquorate and they go away. In practice, such tutorials are rarely requested and only in exceptional circumstances.

The tutor will handle email queries, but again from the team rather than individuals. The team delegates a member to be the funnel for email queries to a tutor. Any team question or tutor answer that might be generally applicable is circulated to all teams. That delegate also has the job of passing on any housekeeping announcements or notices to the rest of his or her team.

With 100 students involved, this makes the work manageable for a single tutor but, more important, it demands the discussion of queries before the tutor is involved. This often has the effect of answering or resolving the question within the team without the tutor, promoting the idea of the "wisdom of teams."

Technical support (with audio visual equipment, computer connections etc.) has been useful, particularly on presentation day when smooth changes between groups is essential. We always leave it to teams to make their own arrangements for equipment and support, but as tutors we should note our grateful thanks to the support staff of both our institutions.

## Enablers & Barriers

Certain developments have helped the teams function better. Possibly the most important ones have been the setting up of communications: the near universal availability of email, mobile phones and text messaging have meant that even distributed teams can perform well together.

To encourage interaction, teams are explicitly and forcefully reminded that until everyone in the team knows what everyone else knows the team cannot start to function properly or creatively.

There have on occasions been difficulties with students being absent for part of the project - for example due to field trips, illness or late arrival on the course. The general policy has been to leave it up to the student to explain his or her absence to the team and for the teams to respond as the team felt appropriate.

Over the last five years, the use of Powerpoint for presentations has become increasingly prevalent. It allows for the easy incorporation of internet material and the presentation itself can easily be inserted in the report. While these presentations (and the subsequent reports) have acquired a particular style and visual "gloss", a more important drawback has sometimes been the creation of "Techie" subgroups (designated "the nerds.") Groups are now

warned that any subdivision by skills should not be paralleled by a subdivision of knowledge. This can be probed in the Q&A session.

## **Evidence Of Success**

Students have supported the project enthusiastically through the past five years. They report that they have met and worked with peers they did not know before. Some have recognised that, while we often choose friends who are “like us”, teams where members are different bring a range of points of view and so often produce surprising work that they could never have created individually. The vast majority of students have considered any occasional discomfort or disagreements during the project a worthwhile price.

Considering that there are no timetabled opportunities for team meetings or work it is a sign of their commitment and interest that the teams function at all. Student support has been more formally recorded by both feedback questionnaires and informal discussion.

A version of the project was recently run with a year that had a record of poor attendance and limited social cohesion. There, other benefits were noted:

Significantly, attendance and engagement throughout the project was excellent with few exceptions. Students who previously had shown little commitment to their studies began to shine and to demonstrate their particular knowledge and skills.

The nature of the project and the presentation demands meant that students often employed media they had not used before while still producing a finished piece of work.

## **How To Reproduce This**

Set a few, simple ground rules and stand back. Leave space for the team to sort matters out.

The simplest and most fundamental change is the shift in focus and subject matter. That is easily introduced: as long as students know the presentation of their own experiences carries equal weight as the study of the project they will devote equal efforts to it.

Basic information on teams and teamwork is useful, but any input on the rather unusual aspects of creative or design teams and the people involved will help students immensely.

It obviously helps if the teams - and the subject projects- are multi-disciplinary, but we feel that it's equally important that the random mixing of students is transparent. Students shouldn't feel that their team or their subject has been “genetically engineered”. When asked, all have said they preferred the luck of the draw.

The Questions and Answers after each presentation are valuable. Ideally, most questions (and all answers) should come from the students: the tutor's

ideal role here is to keep quiet and watch the clock. If students seem initially reserved about asking questions, allocate roles or rules such as “The team that’s just finished presenting will lead the Q&A on the next presentation...”

It’s important to foster a sense of achievement and celebration at the end of the project. Encourage applause at the end of each presentation. A short session at the end of the presentations is helpful to round things up. The tutor can ask for brief preliminary feedback and can also offer heartfelt thanks to all the groups for their efforts.

## **References**

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