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VERTICAL STUDIO PROJECT

Edwardsville Eco-Classroom - Summary

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1. VERTICAL STUDIO PROJECT

The project discussed in this paper was just one example of a number of projects that were to be run for the first time in and by the Welsh School of Architecture (WSA). Staff members were asked to come up with ideas and produce bids for acceptance into the programme. As suggested, a number of bids were successful. Students were then presented with the successful bids and they, in turn, had to produce a bid in order to be included in the project they were most interested in. The project under discussion here, to design an eco-classroom for Edwardsville Primary School, turned out to be one of the most popular, with many students having to 'fall back' on second choices. The Vertical Studio Project was designed to include group work for students from years one and two of the undergraduate year. It was seen as an opportunity for the students across the two years to work together on something that was a little more adventurous than was usual whilst also allowing the students' access to tutors with whom they would not normally work. Given the nature of the project, it was also designed to be less heavily assessed than other modules in the course.

The aim of this summary paper is to give a brief overview on the process as well as providing a general overview of the resultant achievements.

2. THE PROJECT – DESIGN AN ECO-CLASSROOM FOR EDWARDSVILLE PRIMARY SCHOOL

2.1 AIMS

THE AIMS OF THE PROJECT WERE:

- To develop an exploratory brief and design for an Eco classroom to house the Eco–junction scheme for sustainable education at Edwardsville primary school.
- To map out a plan for the operation of the school from cradle to grave, in a manner that maximises its influence on a sustainable future in the region.
- To develop and design communication "tools" for whole systems and ecological design.

The project was set to run from Monday 21 April with an interim review on Tuesday 6 May. Work to be completed by Wednesday 21 May for presentation at Edwardsville School.

2.2 PEOPLE

Project leader: Mike Fedeski

Collaborators: Jonathan Rigby (viewpoint 1)
John Whitehead (viewpoint 2)
Glenn Davidson (viewpoint 3)

Students: Students of the Welsh School of Architecture – a group of twelve students populated 50/50 from years one and two.

The student group were to make up three teams and although each team would be responsible for taking one of the three different viewpoints, the teams were also to work together on the development of all the ideas to establish their relatedness.

2.3 BACKGROUND

Edwardsville Primary School in Treharris has been establishing itself as a role model for promoting sustainable living for its pupils and the community. Its deputy head, Jonathan Rigby, leads Eco–junction, which aims to facilitate sustainable initiatives in schools in four neighbouring counties through project based, active learning. The proposed eco-classroom will be the central base for Eco-junction and a teaching space at Edwardsville primary school.

The eco-classroom project grew out of conversations between Jonathan Rigby and John Whitehead of Sustainable Futures South Wales. Sustainable Futures is developing a "Light foot" College for Sustainability which will be based on productive teams of skilled practitioners working collaboratively in the areas of renewable energy, sustainable building and whole systems design.

Alongside this, Sustainable Futures has been working to develop design and communications tools for sustainable and whole systems design with Glenn Davidson of Artstation. These tools were to be brought into the process of generating designs for the Eco–Classroom prototype.

3. THE BRIEF

The Brief was designed to cover three viewpoints:

Viewpoint 1	Designing the Building - Output: A Building Design
Viewpoint 2	Promoting Sustainable Living - Output: A Cradle to Grave Plan for Operating the School
Viewpoint 3	Reflecting on the Process - Output: A Whole Systems Design Tool for Examining Key Principles

Jonathan Rigby (Deputy Headmaster, Edwardsville School) was to assist in running viewpoint 1. The students were asked to produce a conceptual design, or design alternatives, for the class-room, seen as a prototype for the Eco-junction scheme. The eco-classroom was to be built the following summer, using a local architectural practice yet to be nominated. This WSA project was intended to rehearse the concepts involved, develop a brief, and test it in an exploratory design.

John Whitehead of Sustainable Futures was to assist in running viewpoint 2. The students were asked to think about the place the school could and should have in the community, in the propagation of ideas and practices, and in shaping the future. The outcome of this exercise was to feed into the brief for Viewpoint 1.

Glenn Davidson of Artstation was to assist in running viewpoint 3. For this, the students were told that they would be working with 'design tools' developed by Glenn and John that were intended to draw attention to the wider significance of concepts that would arise in the eco-classroom project. This viewpoint was to invite reflection on the process that was being undertaking.

LEARNING OUTCOMES

At the end of the project the students were expected to demonstrate that they had been able to:

1. sustainability: make penetrating yet practical proposals for the eco-classroom's contribution to environmentally and socially sustainable futures (relating to viewpoint 2)
2. design: develop an inspiring yet realistic design for the eco-classroom and its site that enables a contribution to sustainable futures to be realised (relating to viewpoint 1)
3. reflection: draw far-reaching yet useful lessons about design for sustainability from reflection on the process of design and research undertaken during the project (relating to viewpoint 3)
4. communication: represent and communicate the results of the project in appropriate descriptive, metaphoric and graphic forms, which should include engagement with children (relating to each viewpoint)

SUBMISSION

Submissions were to be fitting to the aims and objectives of the project and its viewpoints as given in the main brief and expanded in the group sessions that were to be held subsequently.

There were to be two presentations, one for Edwardsville School and one for the final crit. Part of the presentation for Edwardsville School would be to Jonathan Rigby, and possibly other staff, and part for school children (the year 4 children, and the members of the Eco-Committee and the School Council). Students were advised that there would be different materials required for each of these presentations and that they would need to be designed to be suitable for the differing audiences involved.

Generic learning outcomes as declared when proposals for vertical studio projects were invited were as follows students were expected to:

- engage critically with an aspect of research in the field of architectural studies, and to understand this in relation to the wider context of architectural design and research;
- demonstrate an understanding of architecture as an integrated discipline that utilises a broad range of research approaches in order to respond to the many questions raised by the discipline and its practice;

- represent and communicate the results of their work in appropriate forms: hand drawing; digital or physical modelling; tabulation; visual, written and oral communication etc.

4. THE TEAM, THE SCHOOL, AND THE DESIGN TOOL

4.1 MIKE FEDESKI - senior member of staff at the WSA whose main interests are in environmental and passive building design and in urban 'sensescapes'.

4.2 JONATHAN RIGBY - deputy head of Edwardsville Primary School, and drives its sustainability programme.

4.3 JOHN WHITEHEAD - performance artist, sculptor, designer, blacksmith, eco-builder and activist. His main interest is in facilitating practical and creative multi-disciplinary approaches to whole-systems sustainable development.

4.4 GLENN DAVIDSON - fine artist and communicator, is one half of Artstation (www.artstation.org.uk), Cardiff-based "innovators in performance, art, video, installation, interactivity and technology systems."

4.5 THE DESIGN TOOL

The design tool was conceived by John and Glenn in the course of developing ideas for the Eco–junction scheme for sustainable education at Edwardsville primary school.

One of the by-products was a diagram that could be used as a design tool, which captured the essential concepts and issues that had informed the process and the relationship between them, but in a way which allowed new associations to be found and new design ideas to emerge.

5. THE PROGRAMME

5.1 SESSION 1

The first session (April 21st) was to be led by John Whitehead and would take place in a yurt to be erected by the students.

This space was created to help facilitate awareness-raising of both the nature of environments in eco-buildings and of some of the problems that would need to be overcome in the designs. This session was to cover the broad picture and the WSA's place in it

5.2 SESSION 2

Session two (April 22nd)) was to be led by Jonathan Rigby. For this, the students were taken to Edwardsville School to see the site and meet the clients.

The students were to survey the site, taking dimensions, particulars of nearby services, changes in ground level, orientation, surrounding influences, and so on.

The students would then meet with two school committees - the Eco Committee and the School Council. The Eco Committee consists of a child from every class and the Council has one boy and one girl from every class, elected by the classes. The purpose of the meeting was to understand the project further, and to be able to find out what both the children and staff wanted from the Eco-classroom, the WSA students consulting with the children regarding what they wanted and what materials might be used.

5.3 ETHICAL CONSIDERATIONS

As Edwardsville is a primary school with very young children, the students were told that they should conduct themselves with regard to the sensitivity of the situation. i.e.

They were told that they should not converse with children without a member of the Edwardsville School staff present and not take photographs of the children. They were further told that if they were in any doubt about how to behave in a particular situation, they were to seek the guidance of a member of the Edwardsville School staff.

5.4 SESSION 3

The third session (April 23rd) was to be led by Glenn Davidson and was for evolving the project plan. For this, the students were to work with tools that would help them to understand how they looked at sustainable futures, and at designing how they design.

Glenn was to begin by showing the socially engaged work of Artstation's international architectural installations through which a theory of interactivity and architecture evolved before going on to lead a session on a whole system design tool for use in reflecting on the design process undertaken. At the end of the day, decisions were to be made on how the teams would be divided and what the team and individual roles would be.

5.5 IDEAS AND GUIDANCE

The students were given advice on Design, Reflection on the Design of Design, Complexity and Engagement with the Design Tool before being given an Exercise to Draw a Whole System Diagram for the Eco Classroom.

6. DEVELOPMENT

Once these sessions had been completed (and with the on-going support of WSA staff), the students began to work on the design process. As the children of the school were an important part of the client group, part of the design process included consulting with the children in an inventive way, ensuring they get the most out of participating in this aspect of the design.

The students came up with a number of innovative ways of making sure the children had the opportunity to participate fully in the process – e.g. children were encouraged to build their own 'cob'[1] structures in the classroom from a number of materials including wheat breakfast biscuits and clay.

The children were also invited to participate in games, developed by the WSA students, which included a water game, a card game and a quiz. The children were also taken out into the playground to form themselves into 'living walls' representing the built structures. The WSA students also collected feedback from the pupils as to what they wanted from the structure.

[1] Cob is an ancient earth building technique which uses a combination of earth, straw, sand and water. These ingredients can be mixed together by hand, using tarps, or by machinery. The mix is formed into lumps or "cobs" which are pressed together to form the walls of a building.

This completed, the students were to continue to work on their designs and develop presentations that would 'build on their group work whilst reflecting the collaborative nature of the overall design work'.

The main factors were:

1) To design a building
2) Consider the interaction of the building with the community and how the community might 'find out' about the building
3) To expand on Glenn and John's design tool (meant to get students to monitor what they were actually doing for the design process and discuss it
4) To develop games for the pupils to help to facilitate the development of the children's thoughts and get a briefing from the pupils as well as from the staff of Edwardsville Primary.

Although the student groups had responsibility for different aspects of the design, they also all had an overall commitment to the end product. By the time of the presentation, he WSA students had to agree on a final design to be presented to the school and develop presentational materials that could be understood and enjoyed by both the staff and the pupils. To this end, the students developed a number of visual interpretations of their work including detailed plan drawings, artistic impressions, 3D models, games and story boards.

7. OUTCOMES

7.1 MIKE FEDESKI AND THE STUDENTS OF THE WSA

This was the first time the 'vertical studio' model had been run by the school and overall this project was considered to have been a success. Some of the more positive aspects for the students were:

- They gained access to what was described as a 'dynamic teaching team' who would not have been available to them in the normal course of teaching
- They worked with a community that they would not normally have access to (the primary school, its pupils and staff) - judged to be a success
- It was the first time the students had been given the opportunity to work collaboratively across the two first undergraduate years - the student team made up of six first and six second year students

Some of the difficulties that emerged were:

- They were expected to work on several levels
- The project was research driven (expectations of student output at this level is usually design driven)
- The brief was fairly open leading to difficulties for some students who would have preferred to have been given a more positive lead

The most positive aspect for Mike was being able to work with Glenn and John and the variety that was available within the project, with the most difficult aspect being learning to work with groups and particularly in motivating groups who were working partly together and partly independently.

7.2 GLENN DAVIDSON AND JOHN WHITEHEAD

It was considered that the students were not quite prepared for the changes in thinking that were required of them but they both felt that solid foundations had been laid for further and future development and whilst they didn't achieve all they would have liked, both Glenn and John were cautiously pleased with the overall programme and the end results.

7.3 STAFF AND PUPILS OF EDWARDSVILLE

The children of Edwardsville School were considered to have gained enormously from working with the WSA students. They were seen to have enjoyed the interaction, learned about architecture and planning and, in an area where very few get to go on to higher education, were considered to have been familiarised with the concept of 'university' in a positive way. The staff felt they had gained from the project in a number of ways including motivation for both staff and pupils and further collaboration with a number of external organisations.

7.4 DESIGN

Unfortunately, the final design was not one that could be used as there was a particular problem in that the greenhouse area was set against a disused wall, hence disallowing gains from passive solar heating being used in the new green building and it was felt that the design could have been taken further given more time. Nevertheless, one of the main outcomes required from the project was that students focus on the process of the design as much as the design itself. This was considered to have been achieved with some success with the students considered to have moved forward in their knowledge and understanding of sustainable buildings and methods. It was further

hoped that the experience would form a solid grounding in sustainable design that might be built upon in the future[2].

7.5 INTERPRETIVE MATERIALS

The students were considered to have turned out good interpretive materials which are kept at Edwardsville School. These include:

- Architects drawings
- Architects model
- Story boards
- Water game
- Card game
- Quiz

7.6 REFLECTION

The project was deemed to have been an overall success but it was considered that there were a number of areas that might have been handled differently.

In the main, there were some problems with gathering the information subsequent to the completion of the module i.e. the module was completed towards the end of the academic year and many students were unavailable in the summer break. This was further complicated by the fact that changes within the department meant that some of the drawings and models had been moved from their original storage area, thus making them difficult to track down. Although the students fulfilled the brief on presentation (that they present their final work to staff and pupils of Edwardsville School), it was considered that, given the intention that the building also be used by the general public, further communication would have been preferable e.g. a public exhibition at which the students would have been available to interpret their designs. Unfortunately, this was not considered at the time and the project took place over too short a time to make this possible in this instance. The only other difficulty experienced was that the project turned out to be far more expensive than initially considered which led to extra funding having to be secured and collaborators providing far more time and expertise than they were paid for.

[2] The WSA offer a course in sustainable design but this is aimed at post graduates whose output is said to be both innovative and exciting

8. CONCLUSION

This Edwardsville EcoClassroom project was just one of a number of projects that were run under the concept of the 'Vertical Studio' for the first time at the WSA. This particular project was to be innovative in a number of ways which was to include a focus on the design process as well as the final design, demanding the students begin thinking in a new and unfamiliar way. Some of the main difficulties experienced in this instance included a lack of time, a lack of money and the general timing of the project, leading to a not entirely satisfactory *design* result. Despite some shortcomings in this area, the project was deemed to have been an overall success with those who participated considered to have gained in multiple ways.

Staff and students at the WSA gained from interaction with external tutors they would not normally have access to, as well as having access to the school community at Edwardsville, considered to have been both an enjoyable and successful experience. Staff and pupils at Edwardsville had access to design professionals and pupils learned about architecture, design and, considered to be equally important, the concept of University and higher education. External professionals were able to work in areas they would not normally access and considered the collaboration to be a success for both now and for the future. All participants said they enjoyed the experience and would be happy to be involved in a project of this type again.