



Experiential Learning: Taking Students out of their Comfort Zone

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The author has over 30 years experience in Industry and has been a Director of Constructionarium Scotland for almost 8 years delivering experiential learning to civil and structural engineers and students studying other areas of the built environment. The concept of turning theory into practice has led to ExpLearn and Concrete Scotland being formed 5 years ago to develop a secondary school vocational platform called “...in the Classroom” series which can be used to contextualise the participants learning into the world of work through five basic lessons culminating in a site visit to a relevant working environment. We shall look at actual projects that have delivered real Community and Social Engagement has been achieved by partnering secondary, Higher and Further education with Industry to deliver legacy within local communities. Even when working with disengaged low attainment pupils during the Octavian Program improvements were significant to the participants and assisted in delivering positive destinations to more than half of them. This program also won the Scottish Training Federation’s “Innovation in Training Award 2017” following on from being finalists the previous year for Concrete in the Classroom. The presentation shall look at the Year 1 delivery of the Erasmus+ funded PEETS project, Promoting Excellence in Employability and Transversal Skills where 39 multi lingual students from 3 European Universities came together over a 10 day intensive study period from non-construction backgrounds and over a 3 day period delivered a functioning windfarm generating energy and delivering their project on time and on budget before looking at handling a public enquiry into the viability of such a development. We look at the change process within the relevant participants when immersed into unfamiliar territory and how successful experiential learning requires to challenge all parties within a safe controlled environment.

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The problem with Education and Industry, whatever industry that may be, is that they both speak in different languages and they often find it very difficult to collaborate successfully as neither really understands what the other requires or even worse what they require themselves.

Constructionarium Scotland began successfully in 2009/2010 looking at “turning theory into practice” for second and third year university students studying Civil Engineering, Structural Engineering or Built Environment related subjects by allowing them to prepare, manage and deliver scaled down representations of iconic structures during a five day live construction project. This involved the students looking at Health, Safety and Welfare for their whole group, risk assessing the activities that they were to be undertaking and then create safe systems of work in order to deliver the project within the five day project week. Scottish Universities are monitored by The Joint Board of Moderators, who after reviewing the first year of running the program, agreed that Constructionarium Scotland was seen as “best practice” for students to participate and for them to learn from as an integrated part of their degree program.

As Concrete Scotland-ExpLearn was evolving at this time, the author was the founder as well as being a Director of Constructionarium Scotland, he began taking more to do with the operations side of the educational program. This meant moving from a model which just delivered a structure at the end of the project week for the participants to actually looking at the learning outputs and outcomes that could be achieved for the betterment of the learning process.

The students were now being challenged through Immersive Learning and Experiential Learning activities not just to deliver a finished structure but to develop their own “construction company” with responsibilities and relevant accountabilities attached to their actions within the group as a whole but more so as individuals working within the group. In essence they were to deliver their project safely, on time and on budget as it would be in a real construction project and business environment with all the same pressures being exerted upon the participants, but in a safe environment to allow non

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catastrophic mistakes to happen and encourage real time problem solving through challenging the students to explore their “softer” Employability skills. This was achieved through active role play where the students took on managerial roles within their company as well as being the labour force for the delivery of the program.

Having success with delivering The Constructionarium Scotland model to around 200 students annually with over 40% of our delegates being female which was more than double the current industry demographic. We were also finding that this type of program enabled our industry partners to use the process as a form of active interview to select candidates for work placements and future Employability opportunities. With around 10% of participants being directly employed as a result of their participation in the program. Employers liked what they saw and employed what they liked.

Also around 2010 the author as Concrete Scotland was developing the “Curriculum for Excellence” resource “Concrete in the Classroom” which tied in with key (Scottish Government) national themes for education including “cross curriculum learning” and closing the attainment gap during secondary education. After the initial pilot funding was secured to allow an extended pilot to be delivered across twenty secondary schools at different age groups and levels of ability. The essence of this program was not just in delivering the relevant information through experiential based active learning, however contextualising the learned knowledge with a site visit to a relevant factory, facility or working site where participating students could witness the employment opportunities available to them.

<http://www.concreteinscotland.com/Concrete%20in%20the%20Classroom%20Evaluation%20Vers%2002.pdf>

The evaluation document shows the impact that the program has had on the young adults and also where it has now been developed into an SCQF Level 5 resource accredited by Scottish Qualification Authority for single, ten hour, unit: “An Introduction to Concrete Technology”. This equates to an EQF Level 3. The Qualification was as a direct result of our annual teachers CPD and Construction Conference and in response to the overwhelming desire for such a qualification to be developed. There was also unanimous agreement that the introduction of a live project to conclude the program would greatly enhance the learning opportunities and impact on the individuals in a very positive manner developing them into more effective learners and contributors to society and creating their own desire to become life long learners.

The final project element of “Concrete in the Classroom” has now been brought into the “Introduction of Concrete a Technology” qualification and has been greatly supported by not only the Construction Industry as a way to deliver on their Community Social Responsibilities (CSR) and Community Benefits clauses with the financial support that this brings, but by a wide and diverse group of partners from Universities who wish to open their doors to potential students who may not have seen tertiary education as a viable option or environmental groups like Royal Botanical Gardens Edinburgh and Natural Environmental Research Council funding who are realistic about the need within Construction to be “Greening the Grey”.

We can see already, through these two examples, how Experiential Learning can shape young adults into more effective learners and better prepared for their own career paths but it is the development of the “softer skills” that ultimately creates a more employable individual. The effectiveness of an experiential learning or immersive learning program is in the development of these Transversal skills that occurs when the learner is taken out of their normal learning environment or “comfort zone” during the activity, whilst still ensuring a relevance and realism to the activities being undertaken.

Soft skills, also referred to as communication skills, transversal skills or talents, are transferable skills that everyone has and that everyone uses, like the ability to work in a team, leadership, creativity, self-motivation, the ability to make decisions, time management and problem-solving.

As it becomes more difficult to predict what will become the hard skills of the future, so soft skills need to be given more emphasis. The era of a job for life is now gone and the



ability to learn and adapt (skills intelligence) is a skill that will increasingly become essential. [1]

A current Erasmus+ project which is benefitting from ExpLearn's expertise and input is the PEETS, Promoting Excellence in Employability and Transversal Skills, project which, at time of writing is about to run its year 2/3 Intensive Study Period (ISP). The 39 students are selected through application from the Scottish University Glasgow Caledonian University, Built environment faculty; The Hague University of Applied Sciences, Netherlands, marketing students; and Lahti University of Applied Sciences, Finland and their Business School students.

During the first year of PEETS students were tasked with acquiring new construction skills prior to attending the ISP where they were put into three different companies to deliver their own functioning wind turbine within three days. The student teams, who were from non construction backgrounds, and now working in multinational teams, found themselves struggling at first to come to terms with all of the problems that they were now being confronted with. Several in fact could not find any relevance with the activity to their own chosen field of study. However at the end of the third day the students were asked to take part in a 360 degree peer to peer evaluation within their own working groups and this highlighted how their opinion had changed and they now saw the Construction Industry and Renewables Industry as an opportunity for future employment within their own vocation. The learning was further enhanced by the inclusion of a staged "public enquiry" looking at the viability, pro's and con's for the establishment of such a wind farm, with the students themselves taking up roles within the debate on either side and judiciary.

The ISP for year 2 is themed around a solar energy and looking to create a solution for an African village and sell their proposition to the Village Elders and is being held in Lahti, Finland with the final year being held in the Hague, Netherlands.

Working with the University of Edinburgh, ESALA, Edinburgh School of Architecture and Landscape Architecture on several projects allowed ExpLearn to become involved in a project at "Hunters Square" which had become a local eyesore and hot spot for antisocial behaviour, drug and alcohol abuse and all manner of criminal activities. Working with local and national agencies a group of mixed students: architects; business management; economists; and lawyers were challenged to propose plans to redevelop the area, to regenerate Hunter Square back into an attractive area where families and residents would feel safe to spend time.

Through the initial proposals it was evident how silo-ed the learning had been of these high attainers within their own field of study. The lawyers tackled the problem and proposed a solution through greater enforcement of the law, architects created lovely spaces and landscaping whilst economists looked at social services and business managers focused on costings. Each group created great one dimensional solutions which impinged in some way on the others. When they were then allowed to confer and work together a much better and rounded solution was attained which addressed the needs of the client and residents on all levels.

ExpLearn were further commissioned by West Lothian Council as Concrete Scotland to deliver an eight week programme, one day a week, with 12 young adults selected by interview from the eight schools in the local authority area who had become disengaged with main stream education and were all heading towards negative destinations on leaving school. The program saw these difficult students, that had been given up on by most teachers, become reintegrated into the learning process through a combination of practical learning, experiential learning and site visits. So much so that not long after the end of the program we learned that more than half of the students had in fact gained positive destinations either in employment, college placements or other training program and this was all directly attributed to their participation of the Octavian Program. The fact that 10/12 participants attended all of the project days was in itself a success. The Scottish Training Federation awarded Concrete Scotland the "Innovation in Training Award" for this program in 2017 commending the way it used Experiential Learning to deliver on key national themes within Education, Employability and the wider developing the young work force agenda.



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In conclusion Experiential Learning is a very effective method of engaging with life long learners at all levels of attainment, however it is only through careful planning and focusing on the desired outputs of all of the partners that a real difference can be achieved within the deliverables and outcomes. To allow the learner to be given a realistic experience it requires careful control of the activities which must also be retained within a context which allows pressure to be manipulated, both exerted and released as the program progresses, thus the students are taken out of the comfort of the classroom learning experience to hone their skills. By working with ExpLearn as facilitators of Experiential Learning activities you are assured that you have an interpreter that can assist in that initial communication between Educators and Industry and the desired outcomes will deliver tangible results for the participants future Employability across Europe.

References

- [1] Johnson, Toby (2016). How to boost soft skills recognition Transnationality, European Social Fund website, 2016