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Lessons from an Entrepreneurial Boot Camp

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Key Words: entrepreneurship; experiential learning; enterprise education; skills development; team building; applied business knowledge.

Abstract:

Summary

36 second year business studies students attended a three day residential boot camp. Student teams battled through a series of activities and tasks whilst focusing on the main goal: to pitch an innovative catering idea for the University campus. Students developed their skills, knowledge and understanding of enterprise through interactive sessions that provide greater insight into topics such as competition, idea creation, business planning and marketing, gaining currency on the way in order to purchase valuable resources such as market research and projectors.

Objectives

The main objective of this activity were to encompass a range of innovative pedagogical techniques into an intense residential weekend based in a country house in Mid-Wales. The aim was to up-skill second year business studies students with the skills required for an upcoming entrepreneurship module that requires them to work with businesses on real time problems.

Case focus

Students were put on a coach without knowing many of the other participants, where they were going, or what was in store for them. Upon arrival (at 3pm on the last Friday of term before Christmas) they were put into groups and put through a series of ice-breakers before being given their brief:

During the course of the weekend, teams undergo varying tests of their business, creativity, negotiation, marketing, communication and leadership skills in order to win currency to purchase resources for their main objective of pitching their proposal for a new on campus catering facility.

Also included in the weekend were talks from Welsh entrepreneurs that intended to provide an insight, inspiration and motivation to the enterprising teams.

Results

Students were asked to fill out questionnaires at the start and at the end of their experiential weekend. Questions were focused on the students' efficacy, understanding of enterprise and entrepreneurial intentions as well as indicating their own perceived levels of knowledge and understanding of competition, idea creation, business planning, marketing and branding.

Early examination of the results shows that there is a marked improvement in the majority of students' awareness and understanding of the topics discussed. Moreover, students felt that the method of delivery allowed them to better understand the business principles being taught and that they had a clearer understanding of how all the areas of their degree scheme fitted together.

Implications

It is clear that the experiential methods of teaching incorporated into the weekend had a substantial effect on the student's understanding and knowledge of the fundamental business and entrepreneurial skills required of today's graduates.

Value

Having successfully up-skilled these students, it was clear that they had the abilities required to work with real businesses and produce high quality results. The value identified by the students and businesses has led to an increase in popularity of entrepreneurship courses among students and an increase in demand from businesses wanting to work with our students. Further modules have since been developed as a direct result with the Boot Camp now forming an integral part. Future research will expand on initial findings to in order to investigate students' real and perceived levels of knowledge and understanding of competition, idea creation, business planning, marketing and branding and asking how much of an impact they felt the boot camp had on their ability to succeed in entrepreneurship modules and collectively, how the entrepreneurship work impacted on their attitude to being entrepreneurial.

Summary

A residential entrepreneurship event was developed for introducing the application of business knowledge in practical, real world, real time student-centred learning in order to develop the necessary skills for working with local businesses. This involved taking 36 second year business students to Gregynog Hall in mid-Wales. Set in 750 acres of gardens and countryside this University of Wales owned country hall provided the perfect venue for a student residential learning event.

The main objective was to identify, plan and pitch an innovative catering idea for university campus catering. Students were assigned to groups and had to work together to complete a series of team building activities and enterprise tasks. They earned or won currency as they progressed through the weekend which enabled them to purchase or hire items to help them achieve their overall objective. The currency for the weekend was the Henley Pound, named after and featuring, our Head of School, Professor Andrew Henley. The methodology was to embed innovative, experiential teaching practice into an intense residential weekend.

Objectives

The main objective of this activity was to improve Level 2 student skills in preparation for an innovative entrepreneurship module these students had enrolled to study in semester two, specifically:

1. Teambuilding
2. Engagement with an alternative style of learning
3. Up-skilling in order to prepare for delivering problem solving work with local businesses

Case Focus

The European Commission report on “Entrepreneurship in Higher Education” (2008: 10) explains that “Entrepreneurship refers to an individual’s ability to turn ideas into action and is therefore a key competence for all, helping young people to be more creative and self-confident in whatever they undertake.” And that the “benefits of entrepreneurship education are not limited to start-ups, innovative ventures and new jobs” “Entrepreneurship in Higher Education” (2008: 11). Swansea University School of Business and Economics sought to introduce entrepreneurship education through the development of innovative modules. This was to be regarded as benchmarking activity that could be embedded within other academic Schools in order to develop student creativity and self-confidence.

The report continues that “The use of experience-based teaching methods is crucial to developing entrepreneurial skills and abilities. Traditional educational methods (lectures) do not correlate well with instilling entrepreneurial traits and attributes.” The Boot Camp concept was viewed as a method for developing students’ entrepreneurial skills and abilities, a way to kick-start a demanding, experience-based module that requiring them to apply knowledge learnt within the traditional academic environment (lectures) to a real world, real time business problem.

Further, the World Economic Forum Report (2009:145) argued “The pedagogy should be interactive, encouraging students to experiment and experience entrepreneurship through working on case studies, games, projects, simulations, real-life actions, internships with start-ups and other hands-on activities that involve interaction with entrepreneurs. Schools and training programmes provide a safe environment for encouraging students to stretch and test themselves, to experiment and develop an understanding of risk-taking and to turn ideas into action. It is important that students have the opportunity to experience both successes and failures – and to learn from both experiences.”

The debate continues on what can be evidenced as the most effective method of entrepreneurship education but the authors agreed, with the support of Head of School that through introducing experience-based modules and an Entrepreneurship Boot Camp we could create a challenging and inspirational environment. Entrepreneurship educators debating methodologies and models generally agree on the need for student-centred learning (see Dewey 1938) and more specifically, Kolb’s experiential learning circle which identifies 4 stages in a circular process, namely (Kolb & Fry 1975):

- (1) concrete experience followed by
- (2) observation and experience followed by
- (3) forming abstract concepts followed by
- (4) testing in new situations.

In addition to this we know that, it is even more important given the current economic situation, that graduates are provided with the opportunity to develop the skills and competences to enable them to secure a brighter economic future for themselves. "As educators, we face the biggest challenge and opportunity of our generation in providing the inspiration, optimism, confidence, enterprising skills and tools which will enable students to start or resume their lives and careers beyond university, and to contribute to economic and social regeneration. Every student needs to be flexible, adaptable, confident of their abilities, resourceful – in short, enterprising. Enterprising learning is a vital capability which can help students become more self/employable in this new era. More enterprising people are more likely to thrive in times of economic change and uncertainty" (Rae, 2009).

1. Team building

Team building can be defined as developing the cohesion of a team by fostering trust, communication and cooperation among its members to make it more efficient and improve performance (Marquardt, Seng & Goodson 2010).

In looking to create a successful team dynamic, we focused on building key characteristics of successful groups, namely:

- (a) Clear and meaningful goals
Clear and meaningful goals were set. The weekend set clear and meaningful goals throughout. Even during rest periods, students were in their groups working on focused tasks. By building up an air of trepidation, and shared curiosity before the weekend, students were participating in lively conversation trying to second guess what was in store for them during the weekend ahead. This anticipation during the 3 hour coach journey allowed students a shared experience in an enclosed space fostering inclusion and the building of friendships.
- (b) Strong interpersonal and communication skills
It was clear from the start that although there was a serious agenda (skills based learning), this was to be achieved through a series of fun activities and tasks, not least by starting the first evening with a team-based quiz. This light-hearted competitiveness evidenced the social aspect of the weekend with jovial 'stitch-ups', laughter and chatter throughout.
- (c) Competence and commitment around solving problems and performing tasks
With a competitive but fun and sociable atmosphere (noted and stated as quite obvious by entrepreneur and role model, Ed Pereira, upon arrival) as well as a rising noise level, students were fully engaged, showing good progression through the tasks. This commitment was further evidenced by the student teams working at 3am!
- (d) Trust, openness, and group cohesiveness
By the end of the weekend, participants were still buzzing with excitement (despite being hung-over and very tired) and as such were already discussing the possibility of a second boot camp, where they "were happy paying more". Many students stated that they had formed "lasting friendships" and as such were making plans for all attendees (including the staff) to continue socialising that evening. Group cohesiveness was further evidenced during the weekend by social inclusion during free/down time. Trust and openness were shown to be clearly evident long after the boot camp had ended for example, when, during the first week of term, the students were put into different groups and even where groups were teamed with a student who had been unable to attend Boot Camp, all team members were welcomed and went on to form a strong, positive unit.
- (e) Ability to manage conflict
All tasks aimed to encourage discussion in order to expose personalities, individual strengths and weaknesses. Discussions often led to debate, disagreement, and sometimes conflict. As tasks progressed, groups learned to manage this conflict and put differences aside in order to maintain a competitive edge and perform well as a team.

- (f) Shared leadership
During the weekend, tasks were designed to limit teams' resources in order to split responsibility across tasks. For teams to perform well, they needed to coordinate members and operate with shared leadership. Given the high level of performance from all teams, it is clear that this was successfully achieved in all cases.
- (g) Continuous individual and team learning and improvement.
The learning environment was such that the skills necessary for successful performance of each task were challenged repeatedly. Teams were able to reflect on the process undergone and alter their methods during the next task both as a team and as individuals. This continuous learning was further evidenced by comments such as "I'm better at communicating and negotiating" and "I wish all my modules helped me learn in this way."

2. Engagement with an alternative style of learning

Activities and tasks were suitably mixed in order to blend the team building with the learning. There were practical learning outcomes from each task which were identified during the course of the weekend. It is essential that a detailed review of the learning outcomes is provided as many of the skills are implicit and students typically do not realise they are using or developing them. This is particularly true if the team building and bonding activities prove successful and the whole residential is viewed as 'great fun'. The authors consider it imperative that the teambuilding be embedded in this activity in order to create the essential bonding required for effective group work.

The learning outcomes for students attending the residential were to:

- Demonstrate applied business knowledge
- Explore and evaluate how to make effective business decisions when working within a team
- Monitor and critically evaluate entrepreneurial and business venturing activity
- Develop, present and critically assess a business venturing idea in a clear and concise way
- Plan a small business task or identify a business solution, from start to finish
- Demonstrate a range of transferable skills related to entrepreneurial activity:
 - Working as part of a team
 - Decision making
 - Oral and written communication
 - Time management and organisational
 - Task planning and implementation
 - Basic project management
 - Creative problem solving
- Improve presentation skills.

This method of learning was new to many students so the first challenge was to make sure the students were fully engaged. Due to the very nature of experiential learning, student engagement is one of the easiest challenges to overcome if the 'concrete experience' is designed to be stimulating and demanding while also being achievable. In the Boot Camp 'concrete experience' was gained from working on a real business issue via a series of shorter, business tasks in order to achieve an overall objective.

As the tasks progressed and students understood their own and their team members' strengths and weaknesses, led to them allocating roles and responsibilities differently within each task. In terms of Kolb's learning cycle this is indicative of 'observation and experience' with individual and team observations of team members and their reflections affecting subsequent decisions on the allocation of roles within each

subsequent, related task. In addition to this students benefited from observing other teams and their experiences, which also harnessed a natural competitiveness between groups.

The teams would brainstorm ideas and some of the tasks were designed to necessitate creative problem solving which led to the teams '*forming abstract concepts*' which could then be '*tested in new situations*'. The nature of the tasks assigned stimulated a progressive learning pattern of reflection and action and learning by doing. This fits within the need articulated by Cope and Watts (2000:118) for dynamic programmes aiming to "conceptualise critical incidents as learning events, thereby increasing the power of the learning experience by stimulating proactive reflection on what happened and how effectively the problem or opportunity was dealt with – in effect, helping the entrepreneur to 'learn how to learn' from these memorable events."

It was interesting to observe the student interactions during free-time, of which there was very little. There was much debate, analysis and comparison about performances earlier in the day on certain tasks. There were often huddles of students in the bar who would be working on a particular element of the work or the approach they would take during the next activities based on discussions with other teams. Students would discuss the entrepreneurs brought in as guest speakers and role models. This demonstrated that we had been able to create the right environment to foster creative thinking, social learning and an emotional commitment which in turn leads to learning by doing (Cope and Watts, 2000).

Research into successful entrepreneurial business ventures and how to replicate the learning experience within education is leading much current thinking and has shaped the structure of this work for Swansea University. If we understand how people learn to start and grow high performing businesses and how individuals learn to act entrepreneurially, then we can design more effective learning experiences so students can learn through their 'life-story' (Rae and Carswell 2000). The students at Boot Camp were "learning from peers; learning by doing... learning by copying; learning by experiment; learning by problem solving and opportunity taking; and learning from making mistakes" (Gibb, 1997: 19).

There was clear evidence that the need to build student self-efficacy was being addressed, i.e. "the belief in one's capabilities to organise and execute the sources of action required to manage prospective situations" (Bandura, 1995: 2) as "People with high assurance in their capabilities in a given domain approach difficult tasks as challenges to be mastered rather than as threats to be avoided" (Bandura, 1997: 11) "Self-efficacy is a key requirement for entrepreneurial action" pointing to the "potential for enhancing self-efficacy through structured interventions" (Cooper and Lucas. 2007).

The students demonstrated that they had taken ownership of the experience and were fully engaged in the work. By the end of the second day of this three day residential, students were excitedly telling staff facilitators how they now understood certain concepts of their study, for example through applying market research and marketing techniques to a particular task, although some of these students did confess to using 'cheats' such as a visit to the Library or one of the computers to refresh their understanding of some of the marketing terminology.

The use of concrete, 'here-and-now' experience to test ideas, and use of feedback to change practices and theories (Kolb 1984: 21-22) are both essential aspects of this learning style. This proved to be successful both in terms of student skills development and engaging the students in deep learning as opposed to the more traditional surface learning. On returning to Swansea after Christmas to start the module proper, referring back to the marketing example above, students claimed that they could not only remember the terms but understood them and knew how to apply them to the fresh business challenge they were then tackling.

3. *Up-skilling in order to prepare for delivering problem solving work for local businesses*

In order to up-skill the students, each task was carefully designed to address a particular range of skills and competences while embedding team building and self-efficacy. The Welsh Assembly Government Dynamo ACRO model which focuses on four key dimensions of entrepreneurial behaviour: Attitude, Creativity, Relationships and Organisation (see Fig 1. for skills breakdown), was used as the basis for designing the weekend programme.

It was made clear from the start that while it was 'highly recommended' that students who were intending to study the Entrepreneurship Module after Christmas attend the pre-Christmas Entrepreneurship Boot Camp Residential, this activity was not compulsory. The Boot Camp was subsidised by the School of Business and Economics but there was still a fee to pay. The residential weekend started on the day the first semester finished for the Christmas break. There was no formal assessment attached to it so any assessment would be formative not summative. The location was a remote stately home in mid Wales with no mobile phone signals available. Therefore there were a number of students who were very unenthusiastic at the start but had been coerced by their tutors into attending. This was not the ideal start in order to engage and inspire, so the student enthusiasm to start the module and stay in touch with each other and with staff on returning to Swansea was very rewarding. Every lecturer wants engaged, enthusiastic students who want to learn.

Following the three hour journey to Gregynog Hall students quickly checked in to their shared rooms as allocated in good time to re-assemble for tea and cakes at four o'clock on Friday afternoon. This was where it was all to begin. The schedule for the weekend was introduced so the students were first organised into their five groups: Motivation; Opportunity; Risk; Network; Solution. In addition to staff facilitators, three Enterprise Interns also attended to provide support for the weekend. This was to manage the retail element which was a key component of the weekend and to coordinate the hire of various pieces of equipment e.g. laptop. The Enterprise Interns were suitably briefed and although a schedule of opening hours and price lists were provided for each student group at the outset, the Interns were given the flexibility to adjust prices, close the shop unexpectedly or adjust stock levels as they saw fit. The Enterprise Interns quickly felt comfortable with using their considerable power. They were also provided with a significant cash float of the currency for the weekend. The benefits of each task were split between 'earnings' and 'winnings'. Each task brief clearly outlined the aims and objectives and potential earnings or winnings.

The first task began at 16:30 on Friday after all the organisation and logistics had been covered. This task was called **Who Am I** and was essentially an icebreaker aimed at building the teams. Each group of students was sent into a separate room and the task was introduced. The students had to introduce themselves to the group by stating three facts about themselves, two of them being true, the other being a lie. The rest of the group then asked questions and debated until they agreed on which of the statements was a lie. The student then revealed which was actually the lie. This task requires a good facilitator to help initiate the discussions and make sure all students understand. It usually produces great laughter and also some interesting ways to remember your team members. The second part was more physical as they now know each other and know each others' names. Each group was given a long stick. They were told to balance it on the end of their finger and lower it to the floor without dropping it, holding it or using any other part of their body.

The next task was introduced simply as **Project Prep** and started at five o'clock. The aim of this task was to prepare the students for the challenge that was to come and to give them some clues as to what they would be doing. The students had to be engaged and communicating well in order to get the most out of the weekend so it was important that the first few tasks achieved this. This task became known as MAP – **Market Approach Product** and was another two part task. This was developed based on a workshop delivered by Kevin Byron at the 2009 I.E.E.C. entitled, 'Four ways to find enterprising ideas'.

For the first part the students were told to consider the catering facilities on campus, who uses them, what sort of facilities there are and what sort of products they sell. Examples were provided of which the students would have been familiar with some but not others. They were told to consider subsets within each identified group. The students were told not to worry about competitors at this stage. Each aspect was worked through one at a time so firstly students were told to consider the market and each had to write down four potential markets to consider e.g. exchange students from Spain, visitors to the university, staff in nearby premises such as the hospital. They could discuss within their group but each card was to then be turned over and they would move on to consider the approach, e.g. café, takeaway, bar, vending machine.

Figure 1: Correspondence between skills/competences and tasks

Skill/ Competence→ Task ↓	ATTITUDE				CREATIVITY			RELATIONSHIPS				ORGANISATION					
	Self-awareness	Self-efficacy	Ethics	Employability	Creativity	Creative problem solving	Entrepreneurship*	Communication	Listening	Negotiation	Public speaking/ presentation	Time management	Project Management	Financial literacy	Organisational	Business knowledge/ applied business knowledge	Delivery of tasks, activities
1. Who Am I		X			X	X		X	X	X	X				X		
2. Project Prep	X	X	X		X	X	X	X	X	X	X	X			X	X	
3. Project Brief	X						X	X	X				X		X	X	
4. Being Entrepreneurial								X	X								
5. Quiz	X	X	X				X	X	X	X						X	
6. Recruitment	X		X	X	X		X	X				X	X	X		X	
7. Market Research		X	X				X	X	X	X						X	
8. Product Pricing			X		X	X	X	X	X	X		X	X	X	X	X	
9. SIFE			X		X	X		X	X								
10. Penned In / Electric Maze	X	X	X			X		X	X			X			X		
11. Team Meetings	X	X	X		X	X	X	X	X	X		X	X	X	X	X	
12. Interview Challenge	P/C	P/C	P/-	P/C	/C	/	P/C	P/C	P/C	P/-	/C	P/-	P/-		P/-	P/C	P/-
13. Making Things Happen								X	X								
14. Construction Challenge	X	X	X			X	X	X	X	X		X	X		X		
15. Design Challenge	X	X	X		X	X	X	X	X	X		X	X		X		
16. Lost Wallet	X	X	X		X		X	X	X	X				X	X	X	
17. CHALLENGE	X	X	X	X	X		X	X	X		X	X		X	X	X	

* For the purposes of this exercise *Entrepreneurship* "refers to an individual's ability to turn ideas into action and is therefore all, helping young people to be more creative and self-confident in whatever they undertake." The European Commission (2008)
P Interview Panel
C Interview Candidate

One person from each group then collected in the cards. These cards were then swapped round so each group ended up with a different group's cards. Each group then took one card from each category – Market – Approach – Product and was told to consider and plan ways of combining the three elements into a new catering offer. They were told that they must use each of their cards and that their catering offer could be as silly or wild as they choose. They did not have to evaluate at this stage. They repeated this process at least two more times so each group had three potential catering innovations. Each group then had to evaluate these and select their two best catering solutions. Each group then had to present back to the participants as a whole. They were provided with flip charts and pens to create visual aids.

These first two tasks led into the formal **Project Brief** task at 15:45. Students were given a briefing document which outlined the core elements and following a short introduction, they were given some preliminary planning time. They were told that they had to develop a catering innovation during the course of the weekend and present this to a panel on Sunday for a chance to win a prize. There would be an opportunity to earn or win money and purchase supporting resources during the course of the weekend. Each group was provided with a group pack to further support the individual pack. They were talked through the different ways they may choose to approach the overall objective and each individual task, allocating roles and responsibilities, etc. and it was explained that for some tasks, not all team members would need to participate. The retail outlet/ industrial zone was explained in full with opening hours and price lists provided with the caveat that prices were true at time of going to print. As the weekend progressed we found the students were reading between the lines more and looking for the hidden clues for potential 'challenges' they might face in the future. Students were also informed that the quality of products they purchase may vary e.g. there were three levels of market research which could be purchased from using 'economy' consultants to the top quality research.

By 18:00 they were ready for a bit of a break so had an interactive talk/ workshop **Being Entrepreneurial** with one of our Dynamo Role Model Welsh entrepreneurs, Eiliw Ellis-Davies, ATOM PR, who talked about her experience of setting up in business and provided some interesting marketing and PR insights and challenges. This led us nicely in to evening dinner at seven o'clock and an opportunity for social as well as project focused discussions. Also, as this was the last event before Christmas for Gregynog Hall the staff ran the evening dinner as a Christmas party so the students could indulge in party hats and crackers before the next task at 21:00 which took place in the bar. **Pub Quiz** had the categories general knowledge, sport, film/ literature, maths/ science, picture round 'Guess Who?' (well known entrepreneurs).

The 07:30 scheduled for Saturday morning was put back to later in the day due to everyone's hard work and commitment so far. Breakfast was at 08:00 followed by the **Market Research** task at 08:45 which consisted of a variation on musical chairs and 'Runaround' involving answering marketing based questions with lots of running around, shouting and attempts at cheating.

Product Pricing followed at 09:30. One of the objectives of this residential weekend was to instill financial literacy and allow students to apply business knowledge. This was done by the following simple activity. Teams were given a brief to design and price a product in such a way that it would maximize profit. They were told they needed to take into account various contributory factors when pricing a product and asked to produce a design specification.

To help with this, they were given some basic market and design information:

1. Target market

The average number of cakes purchased locally per month is 6,000. Depending on location and standard of product, people are prepared to pay up to £10 for a cake.

There are 5 market sectors:

	Cheap'n'Cheerful	Organics	Good Kids	for	Office Snacks	Posh Nosh
<i>Proportion of market</i>	30%	7%	25%		20%	18%
<i>Expectation of price</i>	Low	High	Low		Medium	High
<i>Expectation of quality</i>	Low	High	High		Medium	High

2. Product design

There are 3 design factors to take into account each at three levels:

Ingredients		Packaging		Outlet	
<i>Quality</i>	<i>Price per unit</i>	<i>Quality</i>	<i>Price per unit</i>	<i>Quality</i>	<i>Monthly rent</i>
Low	£0.30	Low	£0.30	Low	£450
Med	£0.60	Med	£0.60	Med	£900
High	£0.90	High	£0.90	High	£1350

Once the teams had decided on their market sector, and designed their product, you had to cost it and work out a price for their product. This price could be high if it fitted in a niche market and they expected to sell only a few products. Alternatively they could choose to pitch at a lower price, therefore aiming to a larger target audience.

The teams then had to fill in a pro-forma detailing which market sector they were aiming for (therefore affecting the type of marketing activities they would undertake – where to advertise for example) and explain why they thought this was the best market to opt for. Finally they had to explain how their product was designed (using the headings above) and explain their reasoning.

Once finished the products were put through a simulation program for a single month of trading focusing on market selection and performance and currency was earned based on the levels of profit achieved

By 10:00 the students were ready for another low pressure task so **Students in Free Enterprise (SIFE)** presentation and workshop came next. SIFE is a global network dedicated to nurturing the entrepreneurial skills of university students in a way that is both effective in developing their future careers and meaningful to the community.

The students, guided by university and business advisers, form a student-led SIFE team to develop sustainable projects which create economic opportunity for others. Given that the SIFE model fitted the aims and objectives of the module, it was agreed that students could use SIFE projects to be assessed for the module. As such, a session was organised with a SIFE representative to run an introduction workshop in order to inform the students of what SIFE is, so as to make an informed decision on whether they wanted to work on a SIFE project.

SIFE is focused on 7 criteria:

- Personal Success Skills
- Financial Literacy
- Market Economics
- Entrepreneurship
- Business Ethics
- Environmental Sustainability
- Team Sustainability

The workshop lasted one hour and allowed students a break from their main task to concentrate on the SIFE themed enterprise task. After an initial introduction and some video footage of example projects, the students were put into groups and given case studies of SIFE projects and asked to think about certain aspects of the project and discuss the criteria each project met. The groups then had to write down how they would measure the impact of each project.

This session was thought provoking and students clearly had to engage their listening skills in order to fully understand what SIFE was and complete the task given to them. Communication skills were essential in order to work as a group and discuss each of the case studies. Students needed to think creatively in order to correctly identify all stakeholders and solve all the problems the task presented them. Ethical business took a strong focus in the task and each case study allowed students to explore this aspect of their personality.

The aim of this session was to introduce students who had not come across SIFE during their extra-curriculum work, to the concept. Students would have the option of running a SIFE Swansea project instead of a business project, as part of the module in the coming semester. This is for those students already involved in or interested in pursuing community work.

The next two tasks were classic team building activities taking place after mid morning tea and cake in the beautiful grounds of Gregynog Hall. The teams could earn money by completing the task – bonus earnings were won by those teams finishing in the fastest time.

In **Electric Maze** teams had to get all members from one side of an 8 by 5 grid of squares, following the correct route. However the correct route can only be found by trial and error and any mistakes result in a new member of the team starting again from the beginning. The route does not change, but the team need to collectively remember the correct route and communicate this to all members in order to be successful. The groups were split across two tasks and could earn money by completing the task – bonus earnings were won by those teams finishing in the fastest time.

During **Penned In** Teams had to appoint one member as a shepherd whose job was to gather all the other members (sheep) into a marked area (pen). However, the task is made more difficult by the sheep being blindfolded and disorientated and the shepherd not being allowed to move or talk. The group is given a whistle and 5 minutes to discuss a strategy.

Communication skills, time management, creative problem solving, organisation, self-awareness, ethics (cheating!), self-confidence and listening skills are all essential. The tasks are clearly objective focused and teams are encouraged to reflect upon the process, and learning therein, rather than the end result.

The **Recruitment Challenge** took place at 12:00. In this challenge the student groups were tasked with creating the information for employing a Catering Manager being told that this job would be advertised in a professional journal, local and national press. Supporting information and guidelines were provided.

Each group needed to provide the following for the Human Resources department:

- job description
- person specification
- job advert for media use

For the **Interview Challenge** teams were told to select two suitable individuals – one as an interviewee and the other as an interviewer. Teams were informed that the candidate selected for the post would earn their team some currency. Those not participating in this task could continue in the project development work. Both 'short listed' candidates and interviewing panel members were separated and given a job description and supporting paperwork.

The panel were given the brief to select the best candidate for the job based on the interview as all candidates' CVs and job application forms were of a suitably appropriate standard. They were told to agree a Chair for the Panel who could take responsibility for collating score sheets and co-ordinating a fair interview process. No unfair preference was to be shown for their team member.

The candidates were allocated timeslots for interview and were to wait outside the interview room on the chair provided. They were all given time to 'get in to character' and decide on the sort of supporting information that might be required in order to demonstrate suitability for the job as described.

During the course of this task the facilitators and observers noted that two of the more assertive characters from the teams had positioned themselves on the panel while a Chair naturally emerged through their willingness to move forward in planning, fair questioning, scoring and leading the others. Disputes first arose when one panel member openly argued for their team mate purely for that reason only to be counter argued by another for the same reason. The Chair took charge in a commanding but meditative way in order to move the discussions forward in a fair way impressing the facilitators and observers tremendously in their calm and diplomatic leadership skills. One panel member also noted when 'team members' were being disputed, that their team member did a real good interview but was still wandering around outside at the allocated time rather than waiting patiently on the chair outside. Thus concluding that unfortunately, this individual was neither punctual or reliable and these were quite important to this post. They came to a unanimous conclusion based on all scoring and discussions. Chair of the Panel received a bonus due to the way the disputes had been handled.

After lunch on Day Two the students heard from another Welsh entrepreneur about **Making Things Happen**. Ed Periera spoke about his time at Swansea University, how managed to make each of his businesses happen in the face of some serious challenges and some of his additional work within the TV and music industry. This was followed by the **Construction Challenge** in which teams were given a flat pack box of materials, a screwdriver and a rubber mallet. No instructions or pictures of the finished product were given, so the teams had to work out what it was they were building first (or in some cases as they were going along) and they would earn graded amounts of currency depending on how close they were to the correct product (a pine shelf unit). To add to the teams frustrations, some groups had missing parts, others were given extra. In all cases the groups succeeded in constructing the desired product.

In many cases, teams would send out individual scouts to spy on other groups. Where teams had finished early and found extra parts, they took it upon themselves to auction, rent or sell these parts to other teams – including their tools. This type of entrepreneurial behaviour and competitive drive were key traits that this activity aimed to expose. It also provided an opportunity to discuss unethical practice. Teams were also required to write a risk assessment, following a written pro-forma as a guide.

After a 15 minute coffee break the teams were sent to one of the other team rooms for the **Design Challenge**. They were then given a new brief – to design and construct something new from the same materials. At the start, some teams were somewhat hindered, as the previous group had not been as careful assembling the product as they had; some had sold their tools or broken them. All this meant they had to begin by negotiating with other teams to get them back, persuade staff at Gregynog Hall or academic staff to lend them tools. Some resorted to 'borrowing' without permission or similar less ethical practices. The results however were very impressive, with each team coming up with a unique design: A child's cot, a spice rack, a bench, a bar stool and a coffee table that transformed into a snakes and ladders board game (with use of some other acquired resources!).

At 16:00 on Saturday an extra (not scheduled) mini task was introduced called **Lost Wallet**. This task ran alongside their current task list and the students were told that they had lost their team's business walletsomewhere in Gregynog. The wallet has some money in it and sensitive information relating to their team's progress so far. At least the sensitive information is in a sealed envelope. If another team saw this information they could use it to sabotage their team's progress! This meant there were five wallets lost/ hidden around Gregynog that contain money and information about each team. The dilemma being: If they found a wallet and it wasn't theirs, do they return it with all the money still in it? Do they open the envelope? Do they offer a reward if their wallet is returned in tact?

The final **Challenge** were the group presentations. As previously mentioned, the final task of the weekend was to present to a funding panel the ideas that had been developed. Students were encouraged to take into account the information contained within the market research document, and marks were awarded for how well teams had utilised and taken on board the skill taught throughout the weekend. Those skills of particular interest were the applied business knowledge, financial literacy, self confidence, and presentation/public speaking. Time management was also of importance as the groups were given a strict time limit of 5 minutes to present. Every presentation had passion, enthusiasm and was of a very high quality with every student in the group participating. All the teams presented carefully reasoned, innovative ideas. All students were also very excited about the new module they would be studying after Christmas.

Results

One of the aims of this project was to up-skill students in order to prepare them for the upcoming Entrepreneurship module. In order to measure this result, we wish to compare the module results of students that attended the Boot Camp, with those that did not. In total 51 students completed the course of study and of those, 28 attended Boot Camp. Groups in the module were selected at random after splitting between those wishing to work on a SIFE project, and those not.

In order to test the null-hypothesis that the average result for the module from both groups (Boot Camp attendees and Non-Boot Camp attendees) we use an independent samples T-test. The assumption for this test is that the populations of each group are Normally distributed. An investigation of the P-P and Q-Q plots for the two groups confirm that this assumption is valid (Figures 1 – 4).

Figure 1: Normal P-P Plot of Non-Boot Camp Attendees

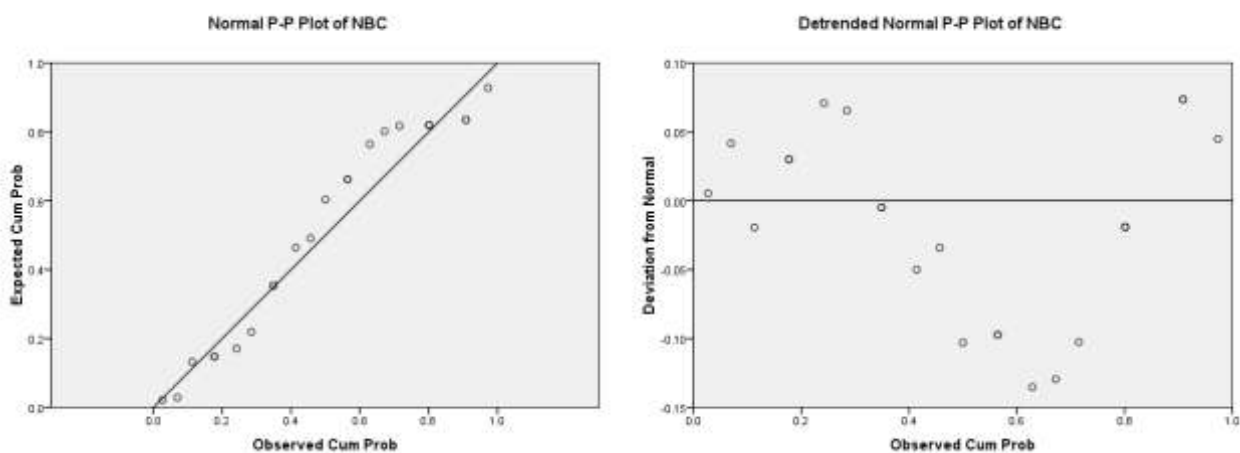


Figure 2: Normal P-P Plot of Boot Camp Attendees

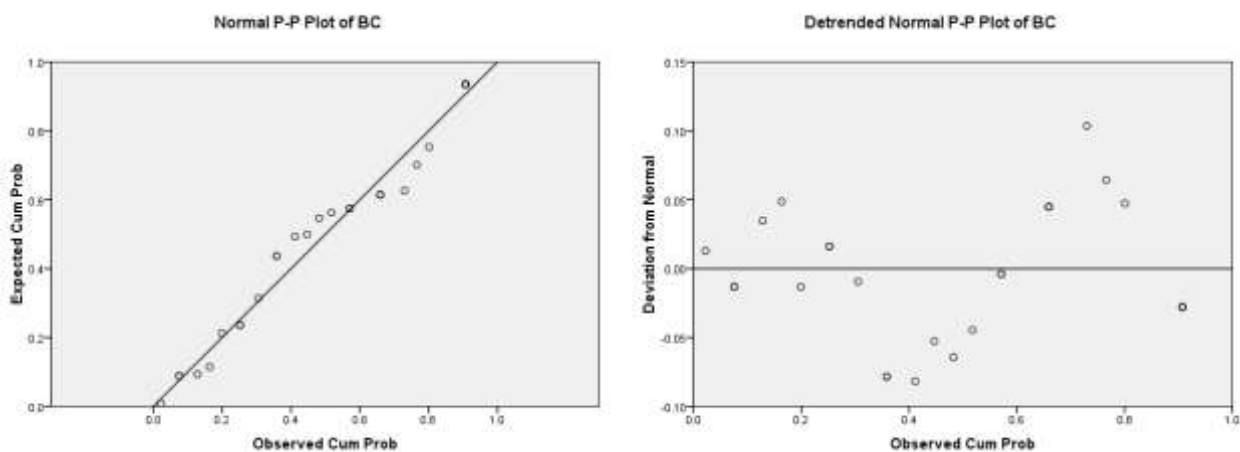


Figure 3: Normal Q-Q Plot of Non-Boot Camp Attendees

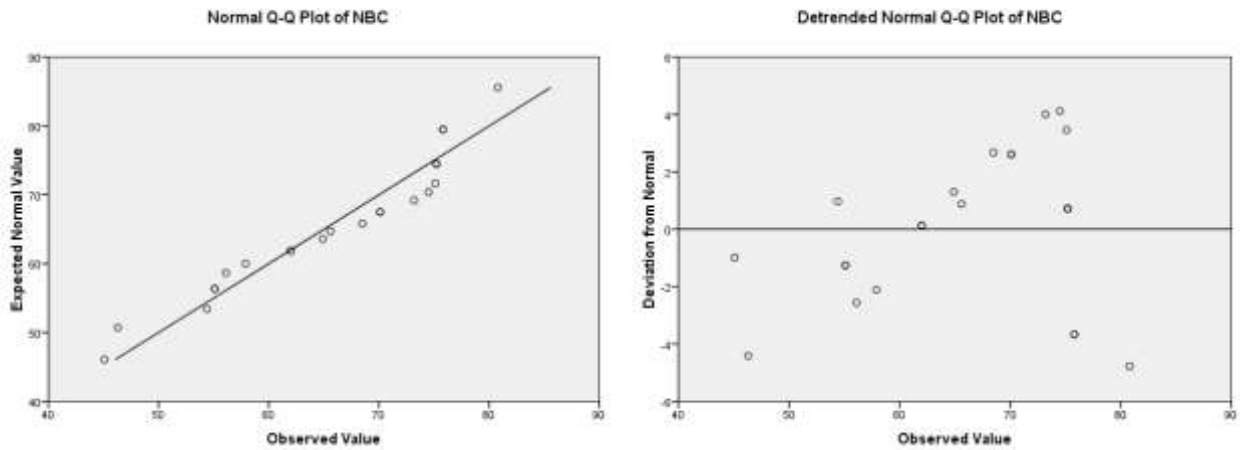
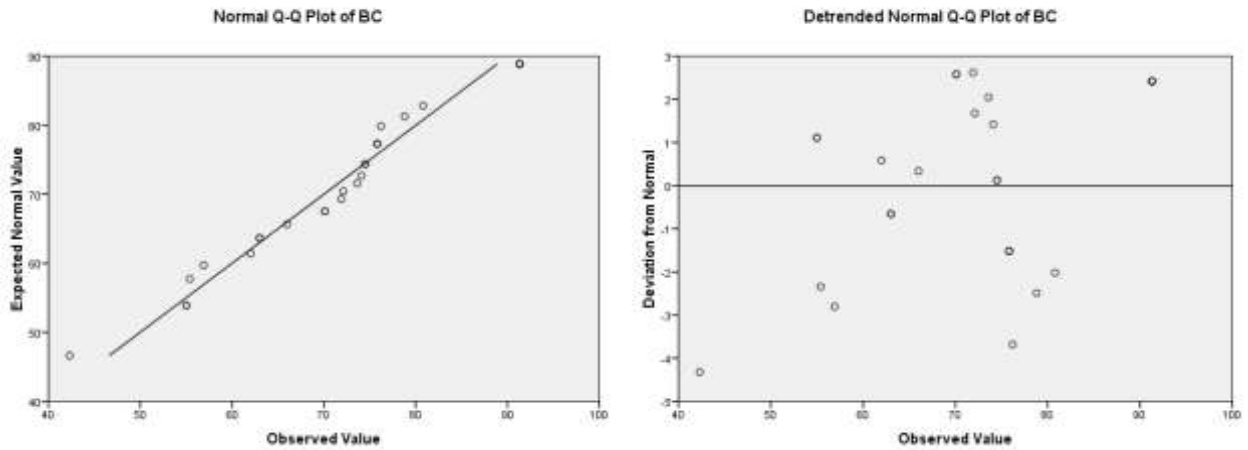
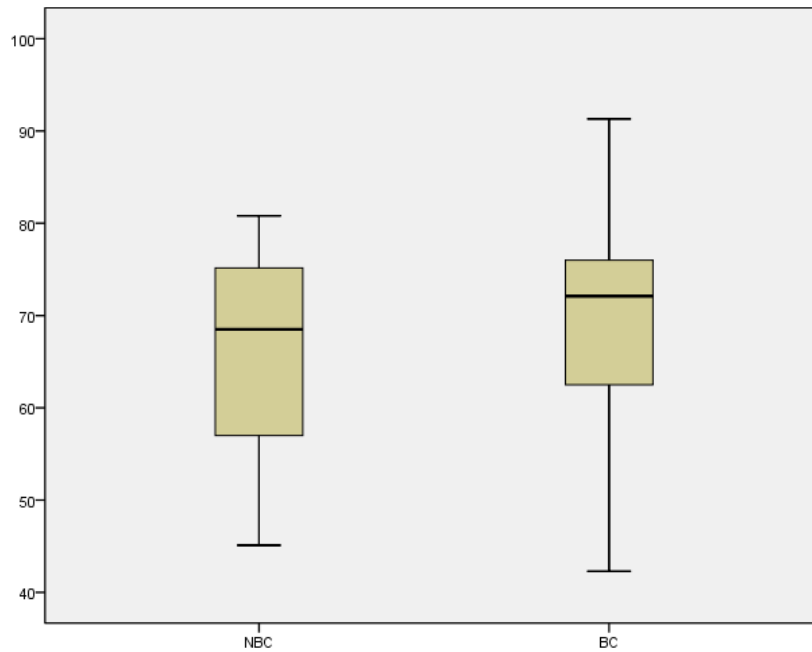


Figure 4: Normal Q-Q Plot of Boot Camp Attendees



To look at the difference in the two groups, we can compare the box plots of the data. Figure 5 shows a comparative box plot analysis of the two groups side by side. We can see from these plots that the Boot Camp attendees clearly have a higher median and a smaller range in the middle 50 percent of the data which is higher than that of the Non-Boot Camp attendees. There is, however an obvious feature in the Boot Camp group which is the overall range is much larger than the Non-Boot Camp group and that the lower bound is lowest in the Boot-Camp group. This feature will be discussed further below.

Figure 5: Box Plot Comparison of Groups



Looking at the QQ and PP plots, it is safe to assume that the data in each of the groups (those that attended boot camp and those that did not) is normally distributed. However a non-parametric Mann-Whitney test has been used alongside the independent samples T-test in order to back up findings.

An initial look at the data reveals that there is a difference between the two groups and that those students who attended the Boot Camp did (as a group) achieve an average result in the course higher than those who did not attend. However, the results are not significantly different at the 95% level (p-value=0.061).

Table 1: T-test for Equality of Means

Group	Mean	Std. Deviation	No. of observations
Non-Boot Camp	65.826	10.236	23
Boot Camp	72.114	12.671	28
Difference in means (standard error)			-6.288 (3.276)
Levene's F-test for equality of variances (p-value)			0.246 (0.622)
T-test for equality of means (p-value)			-1.920 (.061)

Table 2: Mann-Whitney Test for Equality of Means

group	Mean Rank	Sum of Ranks	No. of observations
Non-Boot Camp	22.02	506.50	23
Boot Camp	29.27	819.50	28
Total			51
Mann-Whitney U			230.500
Wilcoxon W			506.500
Z			-1.735
Asymp. Sig. (2-tailed)			0.083

Further analysis of the QQ-plot reveals a low outlier in the Boot Camp group. Upon investigation into this outlier, it was found that this particular student was one that entered directly into second year study, following an intensive foundation course at an international college. As such, this student was allowed to select the course despite not studying the pre-requisite level one Entrepreneurship Skills module. The authors therefore put forward an argument to say that non-attendance on this level one module hindered the student from being able to perform as well as others in this level 2 module and as such was not statistically similar to the rest of the sample. A new investigation into the results gives a p-value of 0.021 and therefore we can conclude that the Boot Camp group performed significantly better than the non-Boot Camp group at the 95% level. This is confirmed by the Mann-Whitney test (see Table 4).

Table 3: T-test for Equality of Means – with lower outlier removed

Group	Mean	Std. Deviation	No. of observations
Non-Boot Camp	65.826	10.236	23
Boot Camp	73.219	11.458	27
Difference in means (standard error)			-7.392 (3.097)
Levene's F-test for equality of variances (p-value)			0.003 (0.960)
T-test for equality of means (p-value)			-2.387 (.021)

Table 4: Mann-Whitney Test for Equality of Means – with lower outlier removed

group	Mean Rank	Sum of Ranks	No. of observations
Non-Boot Camp	21.02	483.50	23
Boot Camp	29.31	791.50	27
Total			50
Mann-Whitney U			207.500
Wilcoxon W			483.500
Z			-2.008
Asymp. Sig. (2-tailed)			0.045

Under the same assumptions, we re-draw the box plot comparison with the low outlier removed (Figure 6). Under this assumption, we can clearly see a marked difference between the two groups.

Figure 6: Box Plot Comparison of Groups – with outlier removed

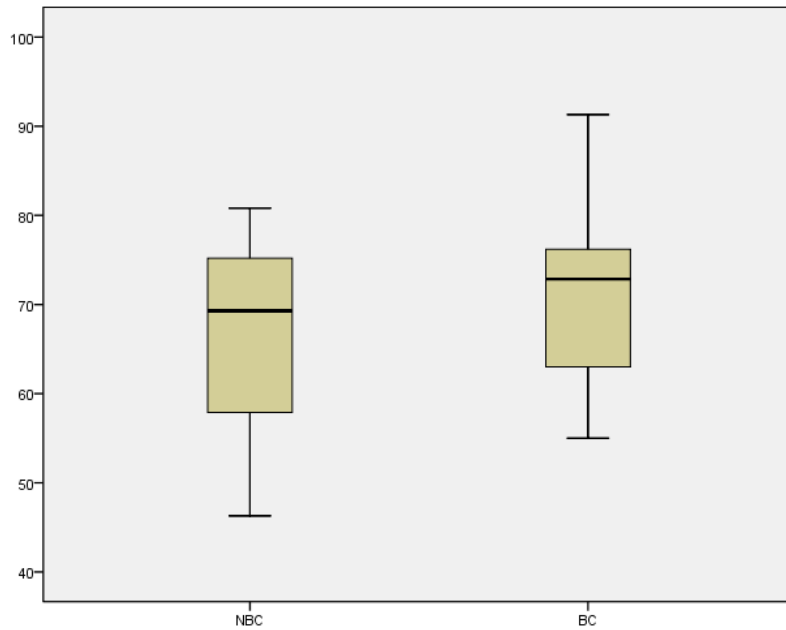


Figure 7: Normal P-P Plot of Boot Camp Attendees – with outlier removed

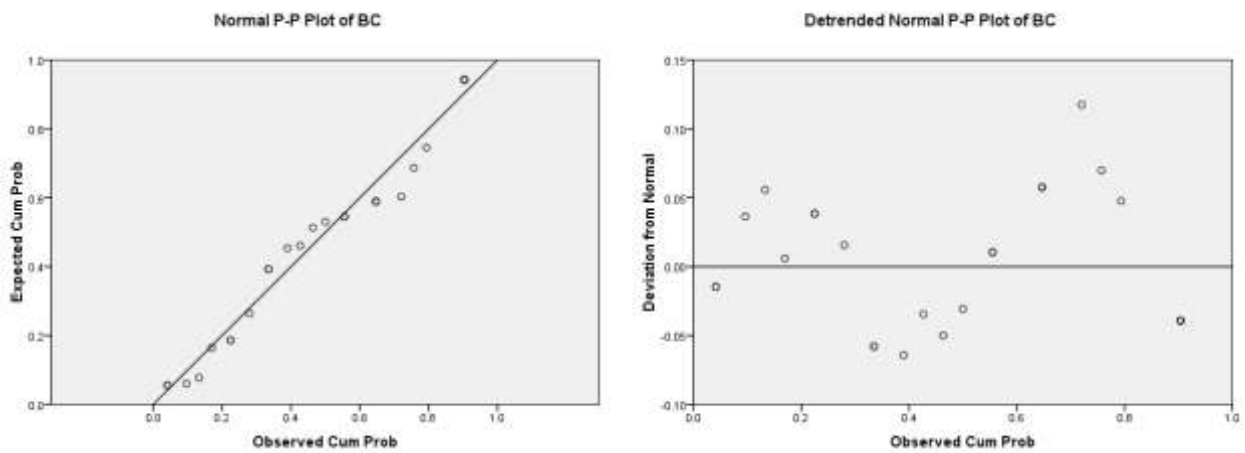
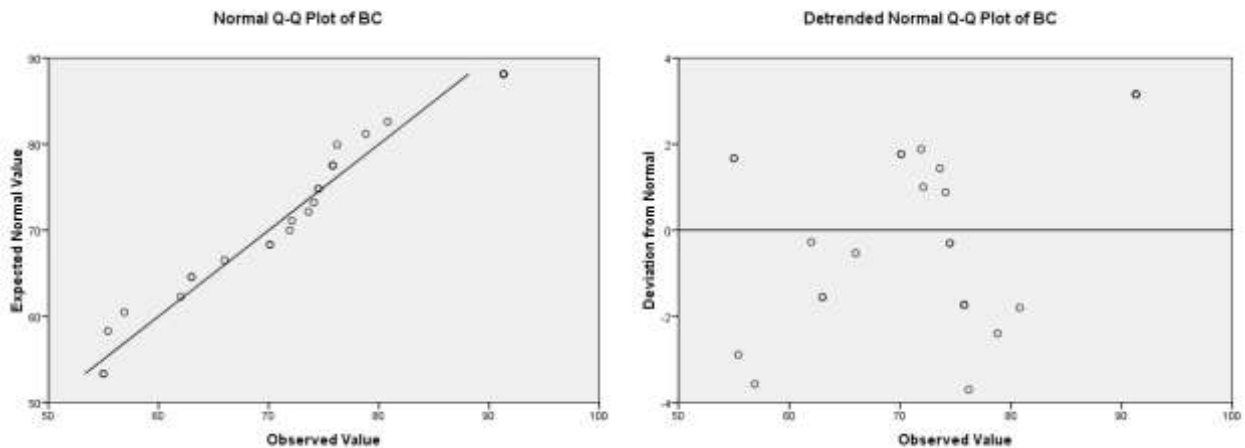


Figure 8: Normal Q-Q Plot of Boot Camp Attendees – with outlier removed



The re-drawn Q-Q and P-P plots confirm Normality of the group after removal of the outlier. We can see from Figure 8 that there is an upper outlier in the data, specifically one student group of 5 members, all attaining extremely high results. This group performed exceptionally well in the module achieving the publication of a student magazine containing professional advertisements in a 3 month period. We note that this particular group of students was the only group where all members had attended boot camp.

Implications

As can be seen from the results outlined above, the Entrepreneurship Boot Camp had a significant impact on the progress students made on the academic module. The implications of this are that there is a clear need for a student residential prior to the start of student-centred engagement with business in order to maximise potential student performance. Therefore the Boot Camp has now become an integral, assessed part of this module and two others. Further implications are that student groups formed at Boot Camp will be more successful in carrying out objectives given to them during this module. There is also a clear argument for early skills development in level one.

Value

Having successfully up-skilled these students, it was clear that they had the abilities required to work with real businesses and produce high quality results. Future research will investigate the real and perceived value to students, businesses and the university as a whole. The value of this work has been spread by word of mouth so that local businesses are contacting the university in order to get involved, academic colleagues are forwarding business contacts as they feel we have something to offer businesses. Word of mouth among students has meant that this module was oversubscribed almost as soon as it was made available for enrolment even though the Boot Camp is now compulsory and there is an increased fee for the student.

The Level 2 and 3 modules which include the Boot Camp as part of the assessed element are considered sustainable deliverables as these have been linked to a further level three module where students study event management. As part of this the students are assessed as facilitators and organisers for the two Boot Camps. The Boot Camps at each level have had to be organised as separate events due to the number of students enrolled.

Although the students returned to Swansea exhausted, suffered through no mobile signals and some were still a little hungover on the coach trip back, they all felt they had made some lasting friendships and most fought back their exhaustion in order to organise a big night out in Swansea for everyone on the Sunday night for the X-Factor final. We are told that most of the Boot Campers went along. Head of School, Professor Andrew Henley stated: "It was definitely one, if not the best student event I have been to at Gregynog in the last 14 years".

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