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HEFCE Catalyst A Project PK62: “Traversing digital-creative perspectives: preparing design and technology students for interdisciplinary work”

Updated Project Inputs and Outputs

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1 Introduction – document purpose and project intention

This document evaluates project inputs and outputs using the original proposal declaration as a baseline (see Table 1 in Section 3). Dissemination outputs to-date are summarised in Appendix A and key project evaluation points/outputs are summarised in Appendix B.

The project intention is to address weaknesses in mono-professional higher education live briefs by using multi-professional curricular briefs that better reflect practice. This responds to concerns surrounding the soft-skill capability of computing and creative professionals to work in multi-professional teams to rapidly develop solutions for clients - see SkillSet (2011) and the 'Shadbolt' Computer Science Review (2016).

1.1 Project Aim and Objectives

The project **aim**, as stated in the original proposal, was “to develop and evaluate a novel collaborative approach using inter-disciplinary curricula to enhance work-readiness of computing and creative advertising undergraduates. The **project vehicle** is a live brief for the university Computing and Art & Design departments to work with Wycombe District Council to develop a mobile and location-sensitive “**Heritage Trail App**” to interpret significant sites in High Wycombe”.

The overall aim of the project has remained unchanged. However, as a result of the success of the first cycle of project work (undertaken in the 2016-17 academic year), the university was approached by Buckinghamshire County Council and offered an opportunity for a further client partnership to develop a ‘web-app’ to support the delivery of the ‘Safe Places Scheme’, an initiative to provide locations where vulnerable people may seek support when they are out and about in the community. This also allowed the project team to develop and validate the approach with a new student subject and a different year group during the second and final cycle of project work (undertaken in 2017-18). This time final year BSc Computing students worked in partnership with second year BA students reading Graphic Arts, Graphic Design and Illustration.

The underpinning project **objectives** and their mapping to the original themes of ‘*Call A*’ are also unchanged and are as follows:

(1) Align computing and design curricula to develop vocationally relevant collaborative skills. Maps to ‘develop[ing] curriculum innovations from interdisciplinary research, interdisciplinary professional practice ...’

(2) Evaluate **learning gain** arising from an innovative approach to authentically represent interdisciplinary and collaborative digital-creative environments. Maps to ‘*respond to employer demands for advanced skills or knowledge*’.

(3) Analyse engagement metrics to: a) predict/reflect progress in learning and collaboration; b) flag need for supportive interventions; c) use for self-directed learning. Maps to *'develop use of learner analytics for particular pedagogic purposes'*.

2 The project mission

The project mission was to positively impact on learning and teaching practice while contributing to the sectoral dialogue on the relationship between innovative teaching practices and team-based learning and learning gain. The initiative aligned with the University strategy and particularly supported the following two priorities:

- high quality, flexible, curricula: informed by research and professional practice, innovative and [...] addressing employer needs and delivered to increasing numbers of learners.
- Commitment to partnerships that ... anchor the University in the fabric of the regions, sectors and professions we work within.
-

3 Project development and progress against intended outputs

The key sources of project inputs (as indicated in Table 1) were originally represented by: (1) the team of university academics involved with the project; (2) one 'client' stating the terms for the live brief; and (3) a commercial partner able to offer technical expertise and to mentor students in an industry setting.

During the course of the project its influence and engagement has expanded to include new members of the academic team, another client for a second live brief (with other associated stakeholders) and other downstream benefits (described below). Table 3.1 provides the structure for the summary evaluation of outputs below. More detailed analysis and description of outputs follow in Section 4.

Table 3.1 Original Declaration of Inputs and Outputs as Stated in the Project Proposal

Key inputs	Key outputs	Outcomes (short and medium-term)
<p>1 Bucks New University</p> <p>One FTE comprising seven 'fractional' inputs across 3 university departments.</p>	<p>1. Two modules re-designed for cross-disciplinary and collaborative delivery;</p> <p>2. Verification and direction of 'next steps' to embed collaborative, inter-disciplinary learning in curricula;</p> <p>3. Dissemination outputs: 2x learning and teaching workshops, 1x research publication;</p> <p>4. Partnership with local council, businesses and voluntary organisations.</p>	<p>1. Improved performance against LOs and improved pedagogic practice (short term and throughout project);</p> <p>2. New approaches to embedding interdisciplinary collaboration in learning environments (short and medium-term);</p> <p>3. Increased capacity for funded research and external recognition of education research at Bucks (medium and long term).</p> <p>4. Improved student employability and strengthened local government, business and university community for developing innovative/creative products and services (medium and long term).</p>
<p>2 Wycombe District Council and the High Wycombe Society</p> <p>Web/App specification, research and mentoring by Wycombe District Council and High Wycombe Society.</p>	<p>1. Confirm Heritage Trail App user and technical specifications.</p> <p>2. Student liaison with clients.</p> <p>3. Evaluate student solutions.</p>	<p>1 Strengthened basis to develop robust 'app' for WDC (short term) and improved acceptance by target groups (medium term).</p> <p>2. Authentic customer feedback and 'satisfaction' report on work completed and conduct of work (medium term).</p>
<p>3 BeSeen Digital Marketing</p> <p>Provision of technical guidance, code maintenance, social network and teamwork platforms.</p>	<p>1. Integrated development environment, code version control and collaborative working platforms for app development.</p>	<p>1. Improved capacity for the partnership to deliver high impact education in a collaborative environment that authentically replicates the work environment of digital-creative industries (medium and long term).</p>

3.1 Input 1 Bucks New University

(One FTE comprising seven 'fractional' inputs across 3 university departments)

The delivery and research team comprised seven full-time academic colleagues from the Departments of Computing, Art & Design and Community Health, Education & Social Sciences. This input represents the key rationale for the project because the intended outputs/outcomes are essential to improving student experience and employability. Such influence is either direct, through innovative module delivery, or indirect through disseminating good practice and enhancing the university's reputation and standing in the local community.

3.1.1 Outputs

1. *Two modules re-designed for cross-disciplinary and collaborative delivery.* Student participants were registered on 5 modules. At the time of writing four of the modules (one L6 Computing module in Enterprise System Development and four at L5 in Art and Design comprising Professional Studies, Graphic Studies and Illustration Studies) have been redesigned so that interdisciplinary and inter-year teams work in close partnerships on live briefs. This is a 'sustainable' measure that will continue after this project has ended. A new client, a live brief and associated partnership have already been identified for the next academic year (2018-19).

2. *Verification and direction of 'next steps' to embed collaborative, inter-disciplinary learning in curricula.* As stated above, there is a clear direction for continuing the approach into the next academic year. The project team have adopted a reflective and action-research approach, constantly reviewing the impacts of interventions. Post-project, we are looking at further improvements to the approach (as stated in the Report Template S.10) by developing greater student autonomy, self-direction and involvement in evaluating learning gain, building in more peer-assessment and intensifying artefact development experiences. These could involve employing hackathon-type environments and modifying module delivery to take place over shorter concentrated periods.

3. *Dissemination outputs: 2x learning and teaching workshops, 1x research publication.* As well as other project dissemination outputs, Appendix A describes a number of other events where project findings and changed practice has been shared with the HE community. These include three workshops (HEFCE, March 2018; Bucks University workshops/conferences in March & September 2017), two external conferences (UUK/HEA, March 2018; JISC Conference, April 2017). Students have contributed to most of the above dissemination events as well as presenting live-brief artefacts to clients and stakeholders (WDC, January 2017; BCC, January 2018) and participating in a product launch (Heritage Trail Launch at Wycombe Museum, November 2017). The project team is engaged in evaluating a substantial body of audio-visual records, transcripts and context data. From these the project team aims to disseminate more detailed findings concerning how student perceptions of their development align with dimensions

of learning gain, and to comment more deeply on the value and delivery of team and other partnership experiences.

4. *Partnership with local council, businesses and voluntary organisations.* The two key partnerships and clients for project work were Wycombe District Council (WDC) in 2016-17 and, as a result of recommendation following a successful initial project cycle, with Buckinghamshire County Council (BCC) in 2017-18. Both projects involved other stakeholders. WDC WW1 Heritage Trail app development required students to work closely with a local history society (The High Wycombe Society) and two secondary schools (John Hampden Grammar School and Wycombe Abbey School) to research and develop a narrative for historical content. The development of the Safe Places app for BCC was also driven by requirements of Talkback, an organisation that supports self-advocacy and empowerment across the county. As a result of these partnerships the university has been approached with suggestions for further live briefs led by other organisations (such as Chiltern Rangers, Wycombe Wanderers Ex-Players Association, local furniture industry interests and a homecare organisation) to develop digital solutions to support the delivery of a variety of environmental, sports and community services.

3.1.2 Outcomes

1. *Improved performance against LOs and improved pedagogic practice.* This is perhaps the most important dimension of project influence. Indications are that students engaged and performed well in both academic years. For reasons of timetabling and assessment structure, Computing students' attendance and grades were more directly linked to project work. In the first project cycle 60% of Computing students attended more than half of the timetabled sessions and 88% passed with an average mark of 61%. Following modifications to the approach during the second project cycle (such as: changed timetabling so that the Computing module timetabling coincided with that of Art and Design students; team building interventions etc.) and it was noted that Computing attendance improved to 88% of students attending more than half of timetabled sessions and 100% of students passed with an average mark of 62%. The comparison of grade achievements and attendance records (as an approximate indicator of engagement) in Figure 3.1 clearly indicates a shift towards greater attendance and improved pass rates in the second cycle, after timetabling changes and team building interventions had taken place. More detailed evaluations of pedagogic implications are reported under Section 4.

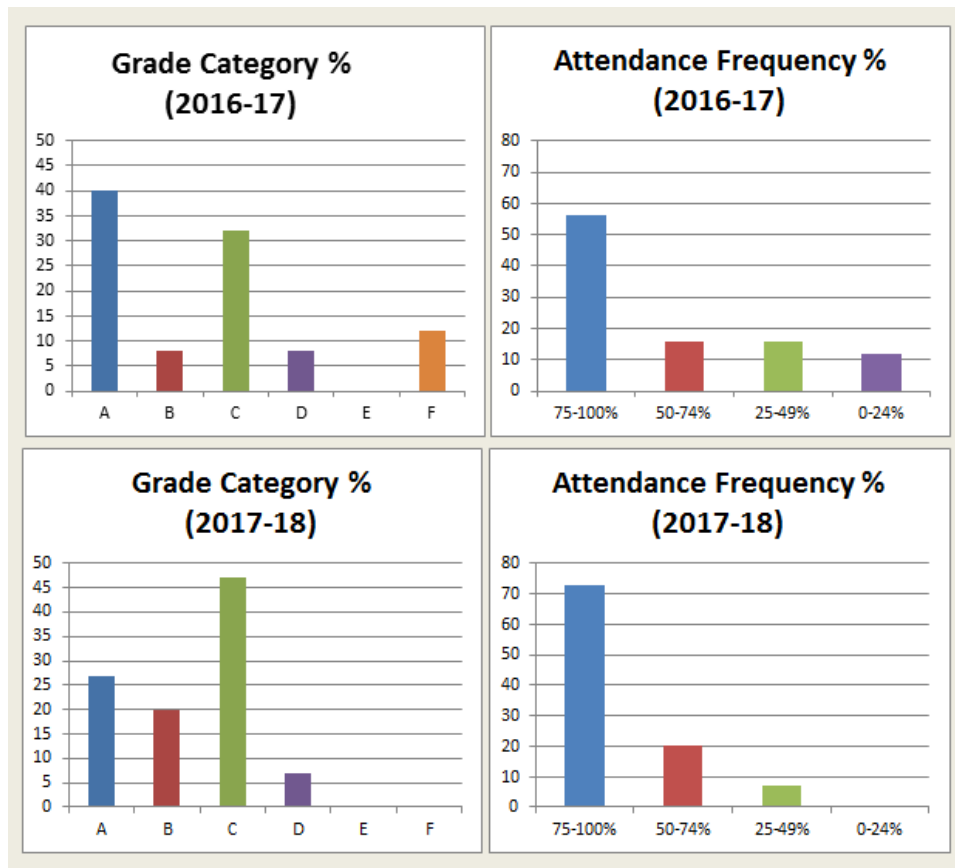


Figure 3.1: Comparison of Grade and Attendance Profiles for 2016-17 and 2017-18 Computing Cohorts (demonstrating shifts to pass grades and greater attendance prior to and following timetable/team-building interventions respectively)

2. *New approaches to embedding interdisciplinary collaboration in learning.* Students generally appreciated the ‘natural’ approach of working on interdisciplinary live briefs, and Computing students appeared to be stimulated by moving from computing labs to spend more time in the creative and sociable spaces occupied by art and design students. The live brief effectively provided scaffolding for learning that significantly altered the role of lecturers and students. After a relatively brief period of providing framework and context presentations, lecturers moved into advisory and guiding roles. Students (particularly for those in more confident teams) made rapid progress and took control of team direction. It was found that there were many dimensions to student partnerships. As well as inter- and intra-team partnerships, other relationships formed between students, clients/stakeholders and the project team. Focus-group sessions in the first project cycle and debriefings suggested a requirement to strengthen team development and collaboration across some parts of the student cohort. With regard to pedagogic practice, the project team believe that ‘ownership’ and early team-development are critical drivers for success. As a result, the project team have formally integrated Team Based Learning and team profile development within the second cycle of project work as means to encourage desirable team

dynamics as soon as the two partnered modules are delivered. The influences of partnership and team development are considered further in Section 4.

3. Increased capacity for funded research and external recognition of education research at Bucks. The environment for securing funds to support education research remains highly competitive. Nevertheless, HEFCE's support has provided essential resources enabling a core team of academic colleagues to work across three schools/departments at the university. This has generated further interest in other potential partners contributing towards the funding of live-brief work from local organisations. It has also produced large and rich sources of data that offer useful insights on the triggers for successful cross-disciplinary teamwork and for deepening engagement with live briefs. The research and teaching team are in the process of completing more detailed analysis towards disseminating findings in education journals and thereby sharing experiences of practice more widely.

4. Improved student employability and strengthened local government, business and university community for developing innovative/creative products and services. For many students the unique combination of cross-disciplinary live brief work (with multiple dimensions of partnership) presented opportunities to exercise soft skills and build confidence in their value as future employees. Some students, who were initially intimidated at having to be accountable to a client, were pleasantly surprised at the willingness of clients to engage in development processes and their receptiveness to proposals for novel and creative solutions. Because the dimensions of student self-perception and progress and self-development as a result of experiencing this approach have great bearing on the expression of 'learning gain', these are explored in greater detail in Section 4. As a result of this project the university community has forged new relationships with the district and county councils, volunteer organisations and businesses. It has also strengthened confidence in the local community that Bucks students are capable of developing engaging and digitally-innovative solutions for real-life applications.

3.2 Input 2 Wycombe District Council and the Wycombe Society

(Web/App specification and mentoring by Wycombe District Council)

This input was greatly extended so that another client (Buckinghamshire County Council) provided the live brief for the second cycle of project work. The following account references outputs from both the original and extended partnership, namely the WW1 Heritage Trail App for Wycombe District Council (WDC) and the Safe Places App for Buckinghamshire County Council (BCC).

3.2.1 Outputs

1. *Confirm Heritage Trail (and Safe Places Scheme) App user and technical specifications.* Both clients and their associated stakeholders worked closely with both student cohorts (2016-17 and

2017-18) to define specifications and content for their respective live-briefs. WDC's brief was considerably more complex. As well as the technical challenge of producing apps that selected location-sensitive content, considerable research and content development was required to produce engaging media for each location along the WW1 heritage trail. The requirements for the web-app (so-called due to an additional requirement for web server architecture to store information generated by the providers of Safe Place locations) were more clearly delimited due to a reduced need to research and develop application content.

2. *Student liaison.* The complexity of the Heritage Trail app content and stakeholder involvement (the partnership included aforementioned local history society interests and two secondary schools) contributed to the challenge of managing app development. Student teams attended two field trips to understand the in-situ location requirements and potential user interface needs for the heritage trail. Teams then engaged in discussions with WDC and associated stakeholders. Due to stakeholder requests to extend app specifications, student teams had to be clear in their negotiations and ensure that the scope for app development remained realistic. Given that such 'mission creep' is a common feature of app (and other) development ventures, this was an appropriate test of student negotiation skills. Liaison for the second cycle of Safe Places work was perhaps less demanding. This was because the 'business context' for the live brief (the provision of Safe Places in the community by shops, businesses and other organisations in mainly urban areas) was already clearly established as was content, including video guidance to Safe Places workers as to how to respond to incidents/scenarios. Student liaison was therefore managed to meet the requirements of the primary client (BCC), who also coordinated student communications with other stakeholders. Students therefore had three key liaison opportunities: a meeting with the client, stakeholders and users at a relaunch of the Safe Places scheme in the local town library in October 2017; a follow-up campus visit by the key client in November; and in December '18 when the client and stakeholders provided structured feedback after all student teams had pitched early ideas and prototypes.

3. *Evaluate student solutions.* For both project cycles, student teams formally presented solutions to clients and stakeholders. The presentations for the WDC WW1 Heritage Trail app took place on 18 January 2017 and for the BCC Safe Places web app students presented on 18 January 2018. Across both years all but two of the twelve student teams were able to present working prototypes to advanced and/or published stages of development. For both project cycles, the clients and stakeholders were very clear in their evaluations and provided constructive feedback how well the applications aligned to their organisational needs. Such real-life perspectives were a useful addition to academic feedback on the quality of work and provided meaningful preparation for the workplace. For both project cycles, 'winning' teams were selected to finalise development and to deploy their solutions (Figure 3.2).

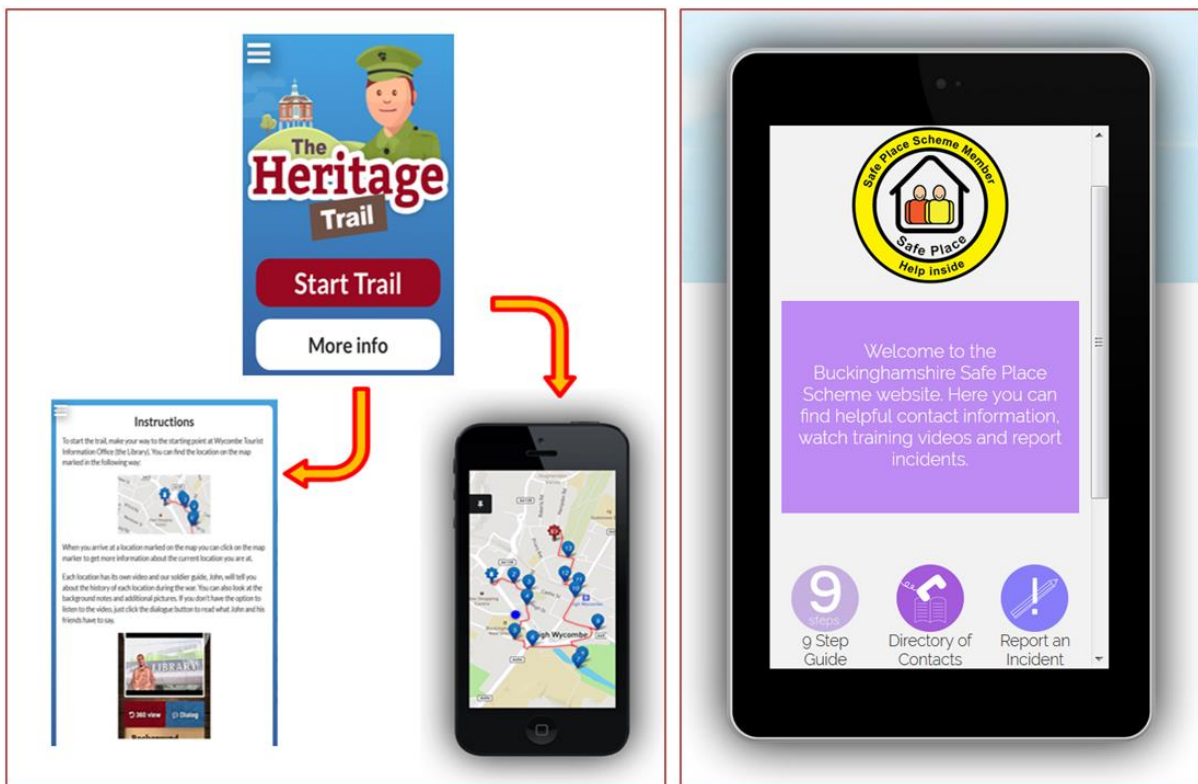


Figure 3.2: WW1 Heritage Trail app (left) and Safe Places scheme web app (right) - solutions developed by ‘winning’ teams of 2016-17 and 2017-18 student cohorts

3.2.2 Outcomes

The key evidence that the two anticipated outcomes for this input (1. Strengthened basis to develop robust ‘app’ for WDC [and BCC] and improved acceptance by target groups; (2. Authentic customer feedback and ‘satisfaction’ report on work completed and conduct of work) were realised lies in the student acceptance of [support for?] the approach and the fact that the university has received requests to develop similar digital solutions from other potential clients. Warm testimonies from most teams (including “*best module ever!*”, “*great to make something*” – and with respect to client-liaison – “*enjoyed working with clients and stakeholders and one of the users of the app*”, “*gave me confidence in working with clients ... treated me as an equal ...*”), indicate that the project approach was successful as a vehicle for learning and personal development (more detailed evaluation is presented in Section 4). However, the research and module delivery team are mindful that some students and teams found aspects of the project challenging, including the technical development, and the need to work autonomously and to project/people-manage. Thus some participants presented alternative views of their experiences, such as, “*it was not always clear as to what I was expected to do*”, “*I had no help from partners*” and “*we had a difficult team dynamic*”.

3.3 Input 3 BeSeen Digital Marketing

(Provision of technical guidance, code maintenance, social network and teamwork platforms)

As a result of changes in company directorship the partnership with BeSeen Digital Marketing was transferred to another company, 'Acuras', although BeSeen remained active as a provider of server hosting facilities.

3.3.1 Outputs and outcomes

As well as providing the stated output of "Integrated development environment, code version control and collaborative working platforms for app development", Acuras made substantial additional contributions in project management and preparation of content for 'winning' team applications. With respect to the stated output, for many students this was their first experience of advanced use of code-versioning (mainly in GitHub) and of using 'Agile' collaborative project management tools (mainly Asana). These approaches were launched during the first project cycle and later refined by strengthening a requirement that all teams (including illustration/design members) deconstruct their projects and manage them as 'task' units in the project management environment. Although the intended outcome (*improved capacity for the partnership to deliver high impact education in a collaborative environment that authentically replicates the work environment of digital-creative industries*) cannot be entirely attributed to this input, version control and project management are core skill requirements for the digital technology industries.

4 Methodology

As per the funding bid, a mixed method approach was used to evaluate engagement, collaborative value and learning gain, combining positivist (structured questions and analytical metrics) and interpretivist methods (focus groups, debriefings and student reflections).

A case study was the most apt approach as they enable the rich array of data available in a learning environment to be viewed together as part of a whole (Bassegy, 1999; Best & Kahn, 1989; Kondakci & Van, 2009) and for this reason are particularly suited to educational environments. Moreover, a flexible design and capacity of case studies to accommodate change is one of the particular benefits of this approach (Stake, 1995) and this was important to the success of the project's implementation. This was deemed necessary because, as an innovative and authentic teaching and learning experience, there were a range of unknown factors associated with the project's delivery at the outset.

The case study spanned two years, accommodating two cohorts of students. An iterative approach is particularly suited to educational contexts where opportunities to adapt delivery can enhance the learning experience (Shernoff et al., 2011). The practical working relationship between different stakeholders and research aim piloted in the first year, and then refined in the second. Benefits of this approach are discussed in Section 4.6.

4.1.1 Sample

Participants included both students and staff. Over the course of the two year project were drawn from Computing and two creative disciplines (Creative Advertising and Graphic Arts). As per students were also different levels.

Table 4.2: Sample summary

Year	Number of participants	Group
2016-17 (Year 1)	25 18 5	L6 Computing L4 Creative Advertising Course team: 5 members of academic staff Total for Year 1: 48
2016-17 (Year 2)	15 24 6	L6 Computing L5 Graphic Arts Course team: 5 members of academic staff Total for Year 1: 45
Total participants	93	

4.2 Data collection and analysis

Every attempt was made to capture or employ data that was naturally occurring- that is, collected as part of the process of learning and teaching within the module, irrespective of any research.

Table 4.3: Data summary

Source	Data type
Grade outcomes	quantitative
Attendance	quantitative
Assessments: content in (video recorded) presentations or reflective reports*	qualitative
Asana records (logs of group communication work)	Quantitative and qualitative
Staff debriefs/focus group*	qualitative
Student interim reflections (sent by email)*	qualitative
Safe Place Scheme stakeholder feedback following student final presentations*	qualitative
Baseline questionnaires to determine team-based learning preferences and self-assessment across a range of areas*	qualitative
Student end-of-module debriefs*	qualitative

While the majority of data collected has been identified as qualitative, there is often no clear distinction between quantitative and qualitative- coding, for example, involves quantification- but this is not the typical understanding (Gorard *et al.*, 2004)

In order to undertake a thematic analysis, qualitative data was recorded, transcribed and then coded. The method followed stages broadly modelled on those outlined by both Braun and Clark and (2006) and Bryman (2008). Though there are slight differences between the stages identified by the researchers, both feature stages of familiarisation, assigning and refining codes, and considering the codes to generate understanding. Involving a range of researchers others to test codes can greatly improve their accuracy (Fereday and Muir-Cochrane, 2006; Fielding and Lee, 1998), and, while this was not an option for all scripts, the researchers came together to review and compare codes when possible. All coding was carried out using Quirkos software.

4.3 Ethics

Ethical approval was gained via the University Ethics Panel prior to the outset of the project. This ensured that the standards of consent, ethical collection data-protection were formally reviewed and approved. Ethical issues were carefully considered in terms of the educational context, with attention to the power imbalances that are inherent in relationships that exist between students and staff.

4.3.1 Informed consent

Ensuring that participants have sufficient information must be handled sensibly in order not to unnecessarily 'overburden' students with too much information (Bradbury-Jones & Alcock, 2010, p. 194). In order to provide key information as expediently as possible, potential participants were provided with a single written information sheet that remained available to them electronically throughout the duration of the project if they took part. This included contact details so that further information could be sought at any later point. To complement the written information, a short verbal presentation explaining the research was also provided before all were asked to sign and return a form providing (or not providing) their consent. Consent was sought as part of the first meeting, and the students were approached as a cohort. It has been suggested that approaching students in this way is preferable to approaching individuals, as the latter may feel more pressured by the request (Loftin *et al.*, 2011).

The pressure that students feel to agree to research may in part be due to the power imbalance that is inherent in student-staff relationships. In other words, when there is the sense that the researcher is in a position of knowing best, the acts of providing information and requesting consent from participants do not result in truly informed consent, and this is often cited as an issue in medical research. The power imbalance issue may be exacerbated in educational institutions. Some authors go so far as to propose that faculty undertaking research are, to some

extent, violating the trusting relationship that exists between themselves and the students (Ferguson et al., 2004).

It is undeniable academics are in a position of some power. Student's perception may be that participation in the research is somehow linked to their grade, or that they are viewed more positively by academic staff for having taken part. Indeed, it has been suggested that students see requests such as this as a requirement, as the request comes from a figure of authority (Humphrey, 2012). BERA cautions dual researchers, those who are educators and researchers in the same institution, to be aware of tensions that emerge from this role (British Educational Research Association, 2011). To address this issue as effectively as possible, it was clear to the students in both the written and verbal communication that:

- the researcher was not part of the course team
- grades would not be influenced positively or negatively through participation.

While making this information explicit in communications may not have eliminated potential concerns, it has nonetheless an active approach to address power issues (Loftin et al., 2011).

4.4 Manifestations and dimensions of partnership

Student-staff partnerships were formally recognized in a new chapter on student engagement as part of the Quality Code in 2012 (QAA, 2012). Partnership working is increasingly widespread, championed by key organisations in HE including the Higher Education Academy (Advance HE).

At the university, working alongside students is well established within quality processes (such as validations) and certain disciplines. Although this way of working was relatively new to the course team, staff felt that, by working alongside students in the production of a live brief for an external client, the learning and teaching experience would be significantly enhanced. The analysis of students' comments suggests that, while there is some evidence that students did benefit from a sense of increased independence through this approach, the partnerships between student groups and with an external client were a far more significant feature of their learning experience.

4.4.1 Student-staff partnerships

Staff organized key meetings with the external client, but otherwise worked alongside students to provide guidance where needed, as opposed to directing the individual projects. One of the intended benefits for students was for them to have increased autonomy in the direction and development of their learning.

A thematic analysis of scripts suggests that there were mixed views on whether or not students felt that this way of working changed the relationship with academics. For some students, there was no substantial difference in the way that they saw the role of the lecturer, while for others,

the changed role of the lecturer was very clear. The difference in views seemed to relate to the students' abilities and successful working within teams, with the more advanced teams clearly seeing the opportunity for independence:

[working in this way] makes you really go out and find your own techniques and your own knowledge and then the lecturer is there to buffer that knowledge.

...the best bit was just the working on something where you weren't just told, "This is what you have to do. You have to do it in this particular way," and then you get graded on how far along the path you got [...] You would probably have to think in a real world situation where you're not just given the exact answers.

We were told at one point that virtual reality was a bad idea and that it was going to take too long. We basically scoffed in the face of that and did it anyway.

Similarly, staff seemed to recognize the way that students were challenging their own knowledge:

We moved along very quickly from being subject experts to just facilitating things really. Clearly, the better groups were running way ahead, certainly with me.

4.4.2 Beyond student-staff partnership

Overall, when questioned, the response regarding the partnership between students and staff was positive. However, it was the external partnership with a client and internal collaboration with students from other disciplines that dominated the students' experience in terms of their comments. Comments of working with staff emerged on questioning. In contrast, when asked about how the learning experience differed from previous years or other modules, student most often cited the working relationships with the other discipline, or with a client:

[what was different was] working with other parts of the university, like different students, and working with an actual brief outside of the uni. Yes, so it was working with a different cross-section of people that we don't normally do with assignments and stuff.

4.4.3 Student-student partnerships

In terms of working with a group of students from another discipline, students seemed to welcome the opportunity to see the knowledge and skills of another discipline:

This experience has certainly been interesting to me, getting to know the computing people, really understanding how an app, on Android, iOS or whatever, works and it's given me the opportunity to make new friends.

For example, like through the colour selection, speaking about, "This colour represents this, this colour represents that," [...] I found that quite interesting because that's not something we really talk about.

Students also felt that the logistics of working with another cohort was beneficial:

I haven't been used to working with another whole area of the uni, so the communication between other people when you can't see them every week in your class and making your own arrangements to see them is a different challenge that I've had. Because also, everyone has got their own activities they do outside of uni. Arranging times can be quite difficult, I found. I didn't expect that to be a difficulty.

When we cooperate with the IT people, what we can learn, I think, it's more, like, how to coordinate it.

Students seem to view the experience meeting and working alongside those they weren't familiar with because it represented a 'real' way of working.

You're not going to be working with your colleagues that you're closer to, you're going to be working with colleagues you don't know much about.

[If this was in] a real job, you would be working with other departments, so it makes sense.

Students even seemed to find learning from working with others, even when overall they found the experience difficult or negative, and often saw past the stress that working with other students brought:

It was good in the way that it was quite eye-opening. Then, also because of my group, it wasn't very good because they didn't really want to work.

Despite the fact of how stressful a lot of it was, I really loved this experience.

4.4.4 External partnerships

The partnership with community organisations was perceived by students to offer a 'real' work situation that was welcomed by all groups, as well as building confidence:

In professional environment you obviously have an actual client which we've never had before.

The way it's structured, I really like it, especially where you've got someone from external come [...], it makes you think a lot more, which is good, because it prepares you for after uni as well, when you get out into real life

Staff had hoped that this would build student's confidence:

I thought that the relationship with the client was particularly interesting, because I thought that it would be good for them to see that a client can actually be very nice to them, and very supportive, and also willing to share [...] that must have helped them to feel more empowered, and, you know, more of an equal relationship with the client, rather than that, sort of, big client there, scary client.

Students seemed to confirm that the *relationship* with the client did, in fact, boost their confidence:

The client, the first time they came in, was actually the first time I was there. So I was really out of my depth. I was, like, "What is going on?" I read through the brief and I had a bunch of questions to ask and they were really lovely. The woman, I can't remember her name [...] She was so nice and she answered all my questions. She was just really engaged in it.

With them, it felt like they didn't tell us what they wanted. They were really open and they did understand. [...] So then we actually could build something on it, be like, "Oh yes, this one is a positive aspect, so we will work on it more. This one we should maybe leave." Yes, so I think that's really good, because sometimes it's a very big problem to work with people.

4.4.5 An ethos of partnership

As well as the partnership activity within learning and teaching, staff and students participated in other events.

For example, the University of Exeter hosted the 5th annual change Agents Network Conference, supported by JISC on the 20th and 21st April, 2017. The theme of the conference was 'supporting effective partnership'. Five project members attended the conference, two student developers, two project research members and one project manager to present the project's interim findings (Hucks, R, et. al., 2017).

In preparation for the conference the student developers and project team members attended a number of meetings to discuss the presentation of the first year project (Heritage Trail) at Bucks New University. A clear aspect of these meetings was the developed confidence and engagement of the students in their approach to their work. The students' contributions to the dissemination process of the project were valuable and core to the presentation. This was a clear example of the standard of engagement the majority of students demonstrated towards the project. One particular aspect the research staff noted was the level of reflection from the students for both the technical development process and the learning process they experienced while undertaking the presentation creation.



Figure 4.1 Bucks New University Project Team presenting at University of Exeter - JISC Change Agents' Network 2017: Supporting Effective Partnerships – 'Partnership in the delivery of a live brief: reflections on impact – warts and all'.

4.5 Team based learning and team roles

A key aspect of the project was the working of students as a team. The teaching team emphasised to the students that being able to work successfully in teams is a given requirement of professional employment, and as such is seen as a major characteristic of good graduates by employers (McEwan, et al. 2017).

The forming of student teams was initially undertaken by Level 6 Enterprise Systems Development Computing students and Level 4 Creative Advertising students forming sub-teams and then combining these into 7 project teams of 6/7 members in total (3 to 4 Computing students and 2 to 3 Advertising students in each team). The sub-teams were student self-selected and the amalgamation of the sub-teams was undertaken by the module teaching teams with one Creative Advertising sub-team working with two Computing sub-teams due to the balance of the cohort student numbers. The Computing sub-teams were comprised of students from B.Sc. Computing, B.Sc. Software Engineering and B.Sc. Computing and Web development programmes. It is worth noting that the B.Sc. Computing students had undertaken a Belbin Team Role Assessment (www.belbin.com) as part of their Level 5 studies and were advised to use their individual profiles in the team selection.

The teams met regularly both in teaching sessions and independently. The computing students were instructed in the use of Asana project management software to assist in the management of the project. Students were also encouraged to use social-media to aid the team communication and cohesion.

It is worth noting that the term 'team' as the standard for all reference to group activities was enforced in the second year of the project to provide an ethos on which to build an improved collaborative environment.

In the first year of the project the teaching and research teams observed that despite the two student cohorts claiming prior experience of group work in the student groups did not display the cohesion that was expected. While the teaching teams addressed this issue by encouraging more active communication within the teams, generally they observed only minor improvements. The students' focus groups comments provide further insight into this observation:

Experience of teamwork students' reflections were mixed (1st Year Project):

"We kind of have been taught how to work in groups, we kind of know."

Creative Arts Student

"There's never really a situation on our course where we're not working in a group"

Creative Arts Student

"We've always worked in a group even from year one"

Computing Student

"It's also the nature [group work] of the course in general"

Creative Arts Student

"I think our project would be a lot more interesting and it would be more complete at the end had we worked better or come together better at the end with our creative advertising friends."

Computing Student

"Yes, there was a massive lack of interaction."

Creative Arts Student

As a result of this the research team instigated a stronger approach to the establishment of teams in the second year of the project. This was underpinned by the use of the 'Team Based Learning' (TBL) (www.teambasedlearning.org) approach which is a collaborative learning and teaching strategy introduced by Larry Michaelsen. While the full strategy is not readily suitable for this project the principles of the strategy were followed as much as possible:

1. Groups should be properly formed (e.g. Intellectual talent should be equally distributed among the groups). These teams are fixed for the whole course.
2. Students are accountable for their preparation and for working in teams.
3. Team assignments must promote both learning and team development.
4. Students must receive frequent and immediate feedback.

An initial team creation session for the both cohorts of the 2-year project was undertaken following the framework of the TBL approach. The session was based on the first and second principles above, with only one student absent due to ill-health. The teams were allocated according to this approach and the assignment process and requirements were explained in detail with full student acknowledgement (Principle 3 above). The final principle was satisfied by the regular timetabled supplementary sessions for the teams to meet on a weekly basis, with the teaching teams providing feedback to team enquires. The team design presentations session were attended by all stakeholders and immediate feedback was provided for each team by the teaching team and the clients. Along with this, stronger guidance on the use of project management tools and communication opportunities was provided to the student teams.

The result of these interventions will be discussed in section 4.6 below. However, in summary the teaching and research teams observed early and sustained improved team cohesion which was reflected in the 2nd year project student focus groups comments.

“I think going back to your first question, I think it is good experience for actually going out in a workplace because that’s the kind of thing that you’re going to encounter, working with a different team, whether that be creative advertising or design or whatever it may be. Working with people you’re not necessarily used to seeing every day and being able to create a project and finish it is quite good experience. I think that was quite useful.”

Computing Student

“Yes, I think it did, mainly because we got to collaborate with another team from a different course, which was something quite different for us. Which was really good to experience, I think.”

Computing Student

“We were different programmes. I think, it wasn’t only about the design ... It’s about teamwork, about being on time, for example, or organising stuff. I think that was fun and that was good because we could organise our time, and try to figure out a solution on our own. Not only the design, but also working with the computer guys.”

Design Student

“Yes. I think it’s very important, like, going forward I think it’s very important, after university and after all that, you need to know how to work with other people that know different stuff to you. So I think it would be very important to learn how to work with others.”

Design Student

“Well, different, working with computing students and seeing how they do stuff. It was interesting to see the dynamic there between graphic design and computing.”

Design Student

4.6 Self-reflection and perceptions of Learning Gain

The RAND report on *Learning Gain in Higher Education* (2015) highlights the complexity of trying to capture the ‘multidimensional’ nature of learning (Mcgrath, Guerin, Harte, Frearson, & Manville, 2015) through measurement. HEFCE’s (OfS) own definition of learning gain underlines the range of areas that might be included: the ‘knowledge, skills and work readiness and personal development during students time in HE’

One of the key project objectives set out to evaluate learning gain arising from an innovative approach to authentically represent interdisciplinary and collaborative digital-creative environments.

The learning environment itself was multi-layered and complex: students were working alongside their academic course teams to produce a live brief for an external client. Teams were interdisciplinary, spanned different year groups situated in different parts of the university campus and required active collaboration.

In order to evaluate learning gain, post-delivery focus groups with staff and students were conducted (separately). These transcripts, along with emailed comments and sections taken

from the reflective narrative from submitted assignments were thematically analysed. The results suggest that:

- Both staff and students believe that an accurate measurement of learning is difficult to capture, but that any measurement would have to be primarily qualitative in nature.
- Graded assessments are seen to focus efforts, but are not viewed as an accurate measure of learning, which is considered an internal process.

4.6.1 Learning gain is not easily defined

Accepted definitions of learning gain within academia are necessarily broad. Both students and staff participants in the project recognized that the concept is nebulous, and that it resists quantification:

As one staff member observed, 'How you capture [learning gain] in a way that isn't verbose, and someone can stick a number in a box or something, I've no idea.'

The notion that measurement is difficult to capture numerically was echoed by other members of staff, with one remarking that, '*If it's going to be meaningful then it has to be a sense that the student has [...] some form of progression amongst all sorts of dimensions [...] It's not going to be easily measurable, it'll be qualitative*'

Students seemed to agree, but more succinctly: *[We] can't actually properly measure it.*

4.6.2 Grades can drive engagement, but do not necessarily measure learning

'Research consistently shows that assessment drives student effort, learning and achievement...' (HEA, 2012). Grades were, unsurprisingly, viewed as very important by students. The issue of grades came up on a number of occasions, with students prioritizing work that was a graded part of the experience. As one student commented: '*... rightly so, [ungraded tasks are] not as important to you as your other graded work*'

There were mixed views on whether effort was related to the grade, with some students feeling like the grade bore no relation to what was put in:

To me, I don't feel like the grade will actually represent the amount of work that [we] have put in.

For other students, the grade was seen to be very much reflected by effort:

You could see the groups that cared got good marks. The groups that would rather do something else did not [...] If you look at the groups that cared and the groups that didn't, I think you would find a direct correlation of marks to how much engagement they wanted.

Academic staff indicated that they felt that the design of the assessment supported the measurement of learning to some extent, but acknowledged there were gaps:

I think that we encourage quite a certain level of capturing of the team work and collaboration, both through using online project management systems, and also

documenting that in their report. We did try and encourage that, but just the written report and the screenshots, they don't capture the human element.

4.6.3 Grades are not seen to represent learning

The findings suggested that students viewed grades as reflecting outputs in a way that is distinct from the internal process of learning:

Because the grade, it marks only the outcome. So they know what we did because we gave them sketchbooks, but they didn't know what we went through during the process.

[I] think the grade is very... It's not as broad as if you'd, say, everything you've learned from the stuff you've done. I think it's only one number and it's not saying anything about what we've learned or what we've done, because we might have learned completely different stuff from someone else but have the same grade. So I don't think it shows what we've learned [...] I think it shows our outcome more than what we've learned.

... you can't mark what happened inside us. So, for example, we improved our communication skills, we improved our time managing skills, and I think you can't check it, you can't mark it.

The environment and the assessment were designed to enhance learning and teaching, by providing students with an authentic experience. Assessments that reflect real world experiences are associated with a range of benefits that include the development of employability skills and promoting 'genuine' learning (McDowell, Sambell and Davison, 2009; Sambell, McDowell and Montgomery 2012), but may be difficult to assess (Knight and Yorke, 2003). The assessment- a live brief and associated report- worked to focus students' efforts but were not seen to accurately capture or measure learning.

4.7 The role of social media and digital instruments

4.7.1 Project Management

The student teams were introduced to the Asana Project Management Tool to assist with the management of the project and for team communications. The B.Sc. Computing students having had an introduction to general and software project management approaches and techniques using Microsoft Project in a preceding module at level 5 studies. Asana is an online project management tool which tracks project progress, visualises team goals, assists collaboration and the communication process.

The graphs in Figure 4.2 illustrate how teams in the second year or project work progressed against their self-assigned Asana project tasks. The differences in profile suggest that some teams worked more progressively compared to other that may have completed work close to the module deadline, or indeed, had many tasks outstanding. Some caution should be exercised in interpretation as late or unfinished task completion may partly reflect how well

teams engaged with the Asana tool. However, it is interesting to note that team profiles demonstrating fully completed tasks tended to have developed applications to more advanced stages.



Figure 4.2: Graphic profiles illustrating the completion of project management tasks over time. Note: pale blue shading represents the creation of tasks and darker blue shading represents completion of tasks.

As figure 4.2 appears to indicate, there was some variation in the timing and/or commitment with which project teams engaged with project management software. However, most teams did at some point actively use the project management software and testimonies from student focus groups suggest that this was seen as a positive aspect of the project process.

“I liked working as a team, because we used this thing called Asana, and we learned time management and we had projects to do in a certain amount of time as well, which was quite good.”

Graphic Design Student

A manual search of the student engagement with the Asana software by the Graphic Design students revealed that 50% of the teams GD meaningfully interacted with Asana software:

4.7.2 Social media

The project student teams were encouraged to use ‘social media’ to assist in team communications. While some members of some teams took responsibility to establish ‘team-groups’ in numerous ‘social media’ tools e.g. Facebook, ‘WhatsApp’ etc. many other methods of more traditional communication were established such as email, telephone etc. Some students undertaking the first cycle of project activity found team communication to be less than satisfactory. This is reflected in comments transcribed from student team focus groups:

“Basically, we need to have fixed communication like meeting in person, not by social media or anything, but fixed, so every week.”

Computing Student

However, in the 2nd year project the teaching team established stronger guidelines which improved the communications between the student project teams.

“We only had the one group chat, and that was the one everybody was involved in. ... Then, anything else that was big or major we did put in the group chats, so you guys knew what was going on and to keep you guys up dated. So, we had that, and we also used Asana.”

Graphic Design Student

“Yes, we had a WhatsApp group and that worked perfectly well in communicating between every member in every different discipline.”

Computing Student

“As a group it was one of the more efficient groups out of some I’ve been told about. It worked well for me going between different disciplines, there was a decent level of communication going and it worked.”

Graphic Design Student

Overall, the extent of authentic engagement with social media and Asana (as evidenced by student logs) were generally associated with more effective project management, greater team cohesion and greater progress with application development.

4.8 The impact of project ‘second cycle’ interventions

Second project cycle interventions (changes made after 2016-17 for delivery to the 2017-18 cohort) were largely in response to the ‘challenges’ described in S8 of the main report template.

During the first cycle of project work it was intended that the approach for embedding cross-disciplinary live briefs in modules would be as ‘light touch’ and capable of application to existing modules. Although initial student feedback suggested that the approach was effective, it became apparent that some teams did not develop the same levels of cohesion, communication, engagement with the brief or clarity of purpose as the more successful teams. Reasons were partly logistic – mainly due to the lack of a timetabled session when students from both subject areas could work together – and to some extent attributable to some teams not developing strong brief-driven identities. Some of the key challenges, interventions and outcomes following remedial actions are recorded below.

1 Timetabling. The timetabling of Computing and Art and Design on different days reduced the opportunities for student teams to develop, confer and work on live-briefs. This resulted in low attendance and undermined cross-subject cohesion for some groups. The intervention for the second cycle was simply to allocate modules to the same timetabled periods. During most weeks computing and graphic design students were able to work together for 2 of 3 common timetabled hours.

2 Access to creative spaces. Prior to making timetable changes the ‘creative’ spaces used by Graphic Design students were not readily accessible to Computing students. An unforeseen but positive consequence was also that Computing students greatly appreciated moving away from computing labs into the informal and creative studio spaces and breakout rooms used by graphic design students. There was an overall improvement in average attendance by computing students from 61% in 2016-17 to 88% in 2017-18.

3. Improve cross-subject team partnerships. In the first cycle of work it was noted that there was a requirement to accelerate development of team cross-subject partnerships and ownership of the live brief. In response, elements of Team Based Learning were adopted with an intensive team building and briefing session during the second week of module delivery. Team based problem solving competitions very successfully introduced members from the two subject areas and it was clearly evident that most individuals found clear roles in teams and bonded well with other members.

4. Improve cross-subject team communications. There was also potential to improve cross-subject communications and clarify the understanding of team member roles. The tool ASANA was adopted as the 'Agile' project management instrument for allocating tasks and monitoring progress. Teams also used other media for general communications (e.g. Facebook Messenger, WhatsApp and Google Hangouts). By more formally allocating ASANA as the Safe Places web app development tool (teams were expected to maintain records of progress against project tasks and to include these in their final reports), ASANA became a focus for communications and strengthened project progress monitoring activity.

Further analysis of group feedback carried out using 'Quirkos qualitative data analysis software' also indicated a change in attitudes to group work as a result of second cycle interventions. In the analysis of the Cohort-collaboration (inter-subject) feedback as mentioned in section 4.7 above, Figure 4.3 indicates a shift to much greater acceptance of cross-disciplinary collaboration.

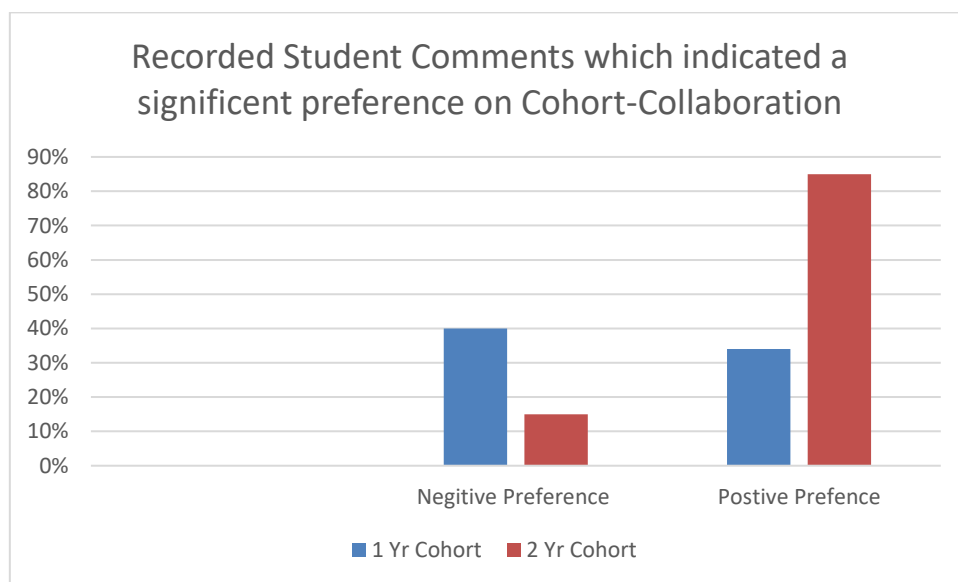


Figure 4.3 Recorded Student Comments indicating significant preference on Cohort-Collaboration (Note: 26% of related comments did not show a significant preference in the first year cohort)

Whilst this is evidence of a positive intervention, the research team would like to build on this in subsequent occurrences of the module to establish the positive result further. However, it is clear to the research and teaching teams that sound proactive team management is crucial to the qualitative success of the pedagogic approach undertaken in this research.

5 Summary and conclusions

The research has enabled a deeper understanding of the dimensions of partnership, learning gain and team-based learning in the context of cross-disciplinary, externally facing learning and teaching experiences.

The evaluation of this project suggests that students' learning experiences may be improved by innovative approaches for learning and teaching. However, capturing learning gain measurably remains challenging. This project has revealed some of the dimensions of learning gain.

This finding is unsurprising, but seems to support a growing concern about risk taking: teaching academics will modify their own approaches to teaching in order to provide those measurable outcomes. If, for example, one of the most easily demonstrable metrics is achievement of content knowledge as compared to the evidencing of soft skills, then the focus of the institution may shift efforts away from more innovative teaching practices that have less demonstrable (or as yet unproven) positive impact on learning gain measures. Coupled with the 'hidden labour' involved in setting up more innovative types of learning experiences, the potential risk involved in trying new approaches mean that practitioners may be put off trying out new experiences.

By adopting a mixed method approach to evaluation it has been possible triangulate 'signals' from qualitative and quantitative perspectives. The richness and authenticity of information transcribed from visual and audio recordings has captured some of the nuances of student responses and engagement with this new learning environment. This will be subject to deeper investigation during an additional post-project cycle of testing this approach. The main trends and patterns suggest an overall acceptance that the learning environment (within the limits of the university setting) authentically represents the demands and interactions encountered in a multidisciplinary work place.

The indications are that this project has established an approach to learning that students find engaging and meaningful to their future employment. By drawing students from different subject areas and placing them in multidisciplinary teams, it appears that many individuals have progressed well in areas of technical, creative and soft skill development. As well as gaining confidence, students also seem to have enjoyed experience.

The project has also strengthened the university links with the community and local organisations, as well as improved our capacity to undertake meaningful education research.

Perhaps the most enduring achievement is to have established a sustainable model for embedding and delivering cross-disciplinary live-briefs in curricula with the involvement of external clients and partner organisations.

6 References

Bassey, M. (1999). *Case study research in educational settings*. Maidenhead: Open University Press.

Best, J., & Kahn, J. (1989). *Research in education* (6th edition). Boston: Allyn and Bacon.

Bradbury-Jones, C., & Alcock, J. (2010). Nurse Education Today Nursing students as research participants : A framework for ethical practice. *Nurse Education Today*, 30(2), 192–196.

<https://doi.org/10.1016/j.nedt.2009.07.013>

British Educational Research Association. (2011). *Ethical guidelines for educational research*.

Desmond McEwan , GERALYN R. RUISSSEN, MARK A. EYS, BRUNO D. ZUMBO, MARK R. BEAUCHAMP, The Effectiveness of Teamwork Training on Teamwork Behaviors and Team Performance: A Systematic Review and Meta-Analysis of Controlled Interventions; January 13, 2017

Fereday J. and Muir-Cochrane, E. (2006) Demonstrating rigor using thematic analysis: a hybrid approach of inductive and deductive coding and theme development. *International Journal of Qualitative Methods*. 5 (1), pp. 80- 92. Available from:

<http://ejournals.library.ualberta.ca/index.php/IJQM/article/viewArticle/4411>

Ferguson, L. M., Yonge, O., & Myrick, F. (2004). Students ' involvement in faculty research : Ethical and methodological issues, 56–68.

Gorard, S., Rushforth, K., & Taylor, C. (2004). Is there a shortage of quantitative work in education research? *Oxford Review of Education*, 30(3), 371–395.

<https://doi.org/10.1080/0305498042000260494>

Gordon, C., & McKenna, C. (2018). LSE Enterprise Ltd: Key findings from interim evaluation. In *Second innovation in learning and teaching project workshop*. The Copthorne Hotel, Birmingham 21 March.

Higher Education Academy (2012) *A marked improvement: transforming assessment in higher education*. York: Higher Education Academy.

- Hucks, R., Jones, R. Mather, R. Rochon, R., Van Der Berg D. (2017) Partnership in the delivery of a live brief: reflections on impact – warts and all; JISC Change Agents' Network: Supporting Effective Partnerships; University of Exeter; April 20th – 21st , 2017
- Humphrey, C. (2012). Dilemmas in doing insider research in professional education. *Qualitative Social Work*, 12(5), 572–586. <https://doi.org/10.1177/1473325012446006>
- Kondakci, Y., & Van, H. (2009). Institutional imperatives versus emergent dynamics : a case study on continuous change in higher education, 439–464. <https://doi.org/10.1007/s10734-009-9204-2>
- Knight, P.T. and Yorke, M.(2003) *Assessment, Learning and Employability*. Maidenhead: SRHE and Open University Press.
- Loftin, C., Campanella, H., & Gilbert, S. (2011). Ethical issues in nursing education : the dual-role researcher. *Teaching and Learning in Nursing*, 6(3), 139–143. <https://doi.org/10.1016/j.teln.2011.01.005>
- McDowell, L., Sambell, K. and Davison, G. (2009) 'Assessment for learning: a brief history and review of terminology' in Rust, C. (ed.) *Improving student learning through the curriculum*. Oxford: Oxford Centre for Staff and Learning Development, pp. 56- 64.
- Mcgrath, C. H., Guerin, B., Harte, E., Frearson, M., & Manville, C. (2015). *Learning gain in higher education*.
- Quality Assurance Agency (2012) 'The Quality Code: Chapter B5: Student Engagement'. Available at: <http://www.qaa.ac.uk/en/Publications/Documents/quality-code-B5.pdf>
- Shernoff, E. S., Marinez-Lora, A. M., Frazier, S. L., Jakobsons, L. J., Atkins, M. S., & Bonner, D. (2011). Teachers Supporting Teachers in Urban Schools: What Iterative Research Designs Can Teach Us, 40(4), 465–485.
- Stake, R. E. (1995). *The art of case study research*. Thousand Oaks: Sage.
- Sambell, K., McDowell, L. and Montgomery, C. (2012) *Assessment for Learning in Higher Education*. Abingdon, Oxon: Routledge.

7 Appendix A Dissemination Outputs:

Date: 21 Mar 2018

Venue: Innovation in learning and teaching projects: end-of-programme workshop, Birmingham

Title: Projects on a postcard – “Traversing the interdisciplinary divide: enhancing and capturing learning gain in innovative student-led learning approaches”

By: Paige Deacon, Rebecca Rochon & Richard Jones

Date: 20 Mar 2018

Venue: London, UUK/HEA Conference: Innovation and Excellence in Teaching and Learning.

Title: Traversing digital-creative perspectives

By: Helena Chance, Nicola Gould, Richard Mather & Megan Staples

Website: <https://www.heacademy.ac.uk/training-events/uuk-conference-2018-innovation-and-excellence-teaching-and-learning>

Date 18 Jan 2018

Venue: High Wycombe

Title: Student Team Final Presentation/Dissemination of Web App solutions to Bucks County Council and other Safe Place Scheme stakeholders (Talkback, Chiltern District Council & South Bucks District Council)

Date: 14 Nov 2017

Venue: High Wycombe:

Title: Website announcement - Heritage Trail website brings First World War to life

<https://bucks.ac.uk/news/2017/november/heritage-trail-website-brings-first-world-war-to-life>

Date: 31 Oct 2017

Venue: High Wycombe Museum

Title: Heritage Trail and App launch

Website: <https://wycombetrails.org/>

Date 18 Jan 2017

Venue: High Wycombe

Title: Student Team Final Presentation/Dissemination of Web App solutions to Wycombe District Council and other Heritage Trail stakeholders (historical societies and schools)

Date: 17 Jan 2017

Venue: High Wycombe:

Title: Press Releases - "Bucks New Uni develops WW1 app with HEFCE grant". Available at:

University Business Magazine - <http://universitybusiness.co.uk/Article/bucks-new-uni-develops-ww1-app-with-hefce-grant> and www.bit.ly/UniversityBusiness2017

Education Technology - <http://edtechnology.co.uk/Article/bucks-new-uni-develops-ww1-app-with-hefce-grant>

Edquarter - <http://edquarter.com/Article/bucks-new-uni-develops-ww1-app-with-hefce-grant>

Date: 17 Jan 2017

Venue: High Wycombe:

Title: Website announcement - "Bucks New Uni develops WW1 app with HEFCE grant".

Available at:

<https://bucks.ac.uk/news/2017/january/bucks-new-university-develops-world-war-one-heritage-trail-app-with-hefce-grant>

Date: 14 Sep 2017

Venue: High Wycombe – Staff Development Conference

Date: 21 Apr 2017

Venue: University of Exeter - JISC Change Agents' Network 2017: Supporting Effective Partnerships

Title: Partnership in the delivery of a live brief: reflections on impact – warts and all

<https://can.jiscinvolve.org/wp/files/2017/04/RRochon-Bucks-New-U.pdf>

By: Robert Hucks, Richard Jones, Richard Mather, Rebecca Rochon, Devon Van Der Berg

Date: 15 Mar 2017

Venue: High Wycombe – Staff Development Conference

Title: Partnership in the delivery of a live brief: reflections on impact – warts and all

By: Robert Hucks, Richard Jones, Richard Mather, Rebecca Rochon, Devon Van Der Berg

https://my.bucks.ac.uk/bbcswebdav/pid-1711683-dt-content-rid-1097068_1/orgs/ORG-AE/Partnership%20for%20Success%20Virtual%20Programme%20v2.pdf#%5B%7B%22num%22%3A95%2C%22gen%22%3A0%7D%2C%7B%22name%22%3A%22XYZ%22%7D%2C0%2C841%2C0%5D

Other Participation/Networking without formal presentation:

5 Dec 2017 - Rebecca Rochon attends “HEFCE outline effective techniques to measure learning gain in higher education” in London

4 Apr 2017 – Richard Jones and Richard Mather attend the HEFCE “Innovation in Learning and Teaching project workshop” in Birmingham

8 Appendix B Evaluation points/outputs

Second cycle 2017-18

Throughout – Asana records; email (e.g. concerns surrounding balance of contributions – emails 11 Jan 2018; 26 Jan 2017; 17 Dec 2016; 13 Dec 2016)

2018

14 February - Staff focus group meeting

24 Jan - Submission of CW1 – “Reflections on team progress/learning and student-staff processes” (guided by Rebecca and Jon – BB email from Jon to students on 11 Jan) – and use marks as ‘achievement metrics’

24 Jan – Safe Place Student Team debriefs

18 Jan – Feedback from Safe Place Scheme stakeholders following student final presentations

18 Jan – Video of student team final presentations

2017

14 Dec – Feedback from Safe Place Scheme stakeholders following student interim presentations

14 Dec – Video of student team progress presentations

16 Nov – Rebecca/Jon review of response to TCA delivery

9 Nov – Submission/presentation of TCA – achievement metrics – Richard Jones audio/video recording

21 Sep – baseline questionnaire

Initial cycle – 2016-17

2017

22 Mar to 25 Apr – Student focus group audio debriefs

24 Apr – Staff focus group audio debriefs

26 Jan - Submission of CW1 – “Reflections on team progress/learning and student-staff processes” – and use marks as ‘achievement metrics’

18 Jan – Videos of team debriefs directly following Heritage App final presentations

7 Dec – Submission/presentation of TCA – achievement metrics – Richard Jones video recording