Intuitive Resources: 'It's like having you at home helping us'

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Abstract

A recent report from the EDUCAUSE Centre for Applied Research highlights that students are integrating smart technologies and web-based tools into their academic experience (ECAR, 2011). With this in mind, the Intuitive Resources project at Falmouth University created and evaluated the use of High Definition (HD) learning videos. These videos may be accessed by mobile/smartphone technologies and have been designed with close consideration of curriculum delivery and assessment in studio-based projects.

Key to students' experience and successful learning in studio-based courses is the input by skilled Technical Instructors (TIs). TIs provide thorough induction and on-going support on complex equipment and techniques. In many instances there may be a significant lapse between induction sessions and students' application of the technical skills, resulting in a high level of individual follow-up support. This on-going support is necessarily situated within the studio context and is reliant on the availability of staff and equipment and may

cause students to falter in their projects until technical support becomes available.

This case study shares the development of the Intuitive Resources project to use the affordances of technology in offering greater access to technical instruction. The case study reviews evaluative feedback from staff and students that demonstrates how improved technical competence impacts on students' learning development in a studio-based environment.

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The Intuitive Resources project

The Intuitive Resources project was devised to provide non-textual, visual learning resources to embed within the curriculum. The project focused on developing a series of high definition (HD) videos that could be accessed by mobile/smart-phone technologies. The curriculum content was designed around key technical aspects that were necessary to the successful completion of projects. The videos played when the users selected an appropriate piece of equipment from a project menu or workshop image. Each video provided a step-by-step guide of how to use equipment or review essential techniques. The project was created with a focus on learner accessibility, with all resources accessible from either a desktop computer or a mobile/smart-phone device.

In accordance with the Bauhaus influence on studio-based learning and teaching, key to the process-oriented nature of studio-based projects is the practical workshop facilitated by skilled Technical Instructors (TIs) (Droste, 1998). TIs provide thorough induction and on-going support on complex equipment and techniques. They assist students in realising their creative visions and help turn concepts into artefacts through ensuring that students have technical competence at the appropriate level, understanding of health and safety requirements, and access to the required tools and resources. An embedded curricular approach ensures that the introduction to technical equipment and processes is linked to particular projects in the first year of undergraduate study. The negotiated project-based

learning in subsequent years provides students with the opportunity to combine foundational techniques with greater conceptual sophistication, culminating in their final year projects, exhibitions and performances. This approach, based on an understanding of threshold concepts, provides students with a platform from which they may develop in technical and conceptual confidence (Land and Meyer, 2006). Theoretical approaches are assimilated through practical application, and assessment is often through extended projects that take students from concept and design, through production to final user testing and application. Students demonstrate their professional approaches to project management, which may include time management, resource organisation, group-working, problem solving and visual, verbal and written communication skills (Shreeve et al., 2008).

At Falmouth University 24% of undergraduate students are identified as dyslexic, with 28% in the Department of Design in 2011-12. The Intuitive Resources project aims to supplement studio-based technical instruction with learning resources that facilitate a multi-modal approach to engaging learners, offering learners ownership of their learning in terms of location, time and access. Whilst this is beneficial for all learners, it has particular accessibility impact for learners with dyslexia who indicate preferences for visual and kinaesthetic modes of information exchange. The visuo-spatial capabilities of those with dyslexia is acknowledged in both the medical and educational literature (Kiziewicz and Biggs, 2001; Von Károlyi et al., 2003). Many dyslexic students choose higher education courses of study that use these capabilities, and studies indicate the higher prevalence of dyslexia among students of art and design (Wolff and Lundberg, 2002). Falmouth University, as a specialist arts-based institution recognises the importance of raising awareness of inclusive practices in teaching and supporting students' learning, and seeks to expand the range of 'accessible resources and accessible delivery' (JiscTechDis, n.d.).

The Intuitive Resources project at Falmouth University is designed with a number of outcomes in mind:

- **To provide learning resources that are non-linear**
  Technical sequences are re-presented so that they may be applied to a project in a way that is responsive to the individual needs of the student and their particular project. This allows the student to manage their own learning through the project, providing opportunity for experimentation, revision and re-conceptualisation, and

consolidated application within students' own project contexts.

- **Visually stimulating**

  Many technical instructions are given through demonstration and supplemented with text-based and diagrammatic hand-outs. The Intuitive Resources project provides multi-modal platforms of technical information that combines audio, video and demonstration to support the institution's high number of dyslexic learners. Working with the Falmouth University Accessibility Service, the project addresses some of the key recommendations that are found within the dyslexia learning plans offered to students, with accompanying guidance for staff. Guidance such as:

  - Tutors should be encouraged in the use of all modes of teaching i.e. auditory; visual; and kinaesthetic.
  - Tutors should be encouraged in the use of videos and demonstrations.

- **Easy to navigate and use (intuitive)**

  The project resources are accessible from a range of platforms within the institution and beyond; embedded within course-based virtual learning environments, and also as stand-alone technical elements hosted on Vimeo. A key emphasis of the project has been on ease of access to, and navigation of, the information. This ensures that the resources are accessible in terms of time and location, providing students with access to technical support when and where they need it.

Figure 1. The Design Centre plaster room, BA Contemporary Crafts.

The first stage of the project worked with the Design Centre, exploring technical processes that are shared by a number of courses within the common space of Falmouth University's Design Centre. The initial focus was to support BA Contemporary Crafts curriculum that introduces students to a high number of technical and workshop processes, encouraging students to explore a range of materials and media. The total number of students in 2011-2012 on BA Contemporary Crafts was 112, of whom 44 were dyslexic. The second phase of the project was by request of the Award Leader of BA Fashion Design, and which focused on technical processes specific to level 1 assessment projects. The total number of students on this course in 2011-12 was 99 students, of whom 30 indicated dyslexia.

At no point were the resources conceived as replacing face-to-face technical support available in the studio, but supplemental to that support, allowing students to repeat, follow-through and revise the technical instruction.
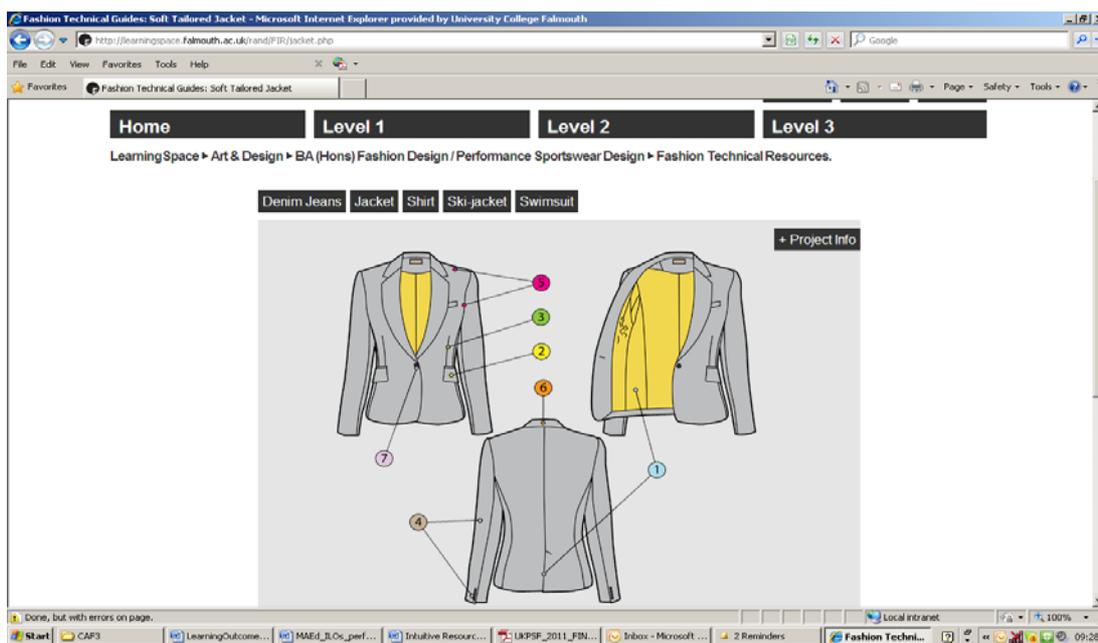
Figure 2. Jacket construction, BA Fashion Design.

Evaluation

Student focus groups and semi-structured interviews with lecturers and technical instructors were conducted to explore the user experiences of accessing and viewing the video resources. The primary exercise was to revisit the material and make improvements

where appropriate. Project evaluation focused on Level 1 students, as much of the technical and studio induction takes place in the first year in order to equip students with skills and techniques to apply in future projects. With this in mind, focus groups with level 1 students took place during semester one, before the summative assessment period in February. There were separate focus groups for each course, 7 students for BA Fashion (66 students in the first year cohort) and 12 students for BA Contemporary Crafts (43 students in the first year cohort). Three students in the BA Fashion focus group and four students in BA Contemporary Crafts indicated dyslexia. Each focus group took place in the respective course studio space. Three TIs were interviewed (one in BA Contemporary Crafts and two in BA Fashion) and one Lecturer in BA Fashion.

Figure 3. Ceramics workshop, Design Centre.

Students found the ability to access these materials from any location with an Internet connection invaluable. Students also positively commented on the ability to watch and revisit the instructional videos on their phones and laptops. Models of access included reviewing the technical videos before initial induction so that students were able to concentrate and comprehend the content of the face-to-face session more thoroughly. Students chose to review the technical videos after the induction session so that they could make their own process notes, rather than try and take notes during the studio induction. Students would revisit the technical information via the videos during project

creation so that they could check and revise techniques. The video resources allowed students to revise studio and technical practices out of studio opening times so that they could maximise their useful working time when in the studio. This meant that when working alone on projects, they could remind themselves of essential techniques without having to continually (and repeatedly) ask for TI help.

> Reading notes doesn't do it for me, looking at pictures, much easier! So those videos are fabulous, I watched those videos at least twice before we started, so that when they were telling us I knew what they were talking about. (L1 student, BA Contemporary Crafts)

For the TIs the project allowed them to develop and deliver a range of follow-up materials to initial induction sessions. They recognise that Level 1 technical inductions provide a large amount of complex information in a short time span. Although supported by hand-outs and other instructional material, much of this information will not be applied until later in the academic year, by which time students have forgotten the introductory information. In addition, the studios are noisy environments and often students may have to listen carefully to follow the procedures, but miss out on the actions. The technical competence is demonstrated through embodied knowledge and the non-verbal aspects of communication are crucial. Prior to the introduction of the instruction videos, demonstrations did not always have their intended impact.

> During inductions students are looking at my face because I am speaking, not looking at my hands, which is the most important part of the demonstration. (TI, Design)
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> A lot of people won't read the paperwork, they will look at the video, or the photographs. Given the choice I think people would opt for the video…2D doesn't work for them. (TI, BA Fashion)

For TIs themselves, the videos have provided a shared understanding of approaches to techniques. Whilst there may be a range of ways of demonstrating a technique, this can confuse students. The project has allowed TIs to develop a standard approach from which they can explore variations. Allowing students to revisit the basic technical procedures gives TIs the time to focus on more complex situations during face-to-face sessions. In

addition, TIs have observed greater effectiveness in technical capabilities through peer learning grounded in a shared viewing of the videos.

Most important for TIs is the ability to reach students as and when needed:

> I think, for [students] to go away and watch, actually problem solve on their own way it's a much better learning experience for them. They get a bit more independent about what they are trying to achieve. Yes. Because normally I'll say yes I'll try and see you in a minute, and I'll take 45 minutes, they'll just sit and wait, whereas now, 5 minutes, they can quickly watch [the video], and if they're really stuck I can catch up with them when I get chance. Yes that's nice, and I notice that they're asking each other as well. (TI, Design Centre)

Lecturers have indicated a greater level of technical competence for completed projects (particularly relating to the Fashion projects) and the embracing of more sophisticated experimentation. With greater technical confidence, students are more likely to move on to greater challenges:

> With the workshop the students are more conformist about their projects, whereas with the videos they felt that they could bounce off, they felt they could push their projects because they had the foundation there. (Lecturer, BA Fashion)

The Learning Technologists felt that it was important to have the video resources embedded both within the institution's VLE as well as available on open platforms, creating a Falmouth Design channel on Vimeo. This allows students search options and has also engaged interest from beyond the institution.

The Intuitive Resources project has been so well received by staff and students that the project team received an institutional Learning and Teaching Excellence Award. Other courses are now embracing the opportunities afforded by creating further video resources.

Transferability

If you wish to adopt this model of intuitive resources to support learning, you may wish to

consider these factors:

- Strategic departmental support to ensure coherent articulation to the course curriculum and identification of threshold concepts linked to project processes and assessment requirements. The TIs were crucial to the development and production of the Intuitive Resources project. They worked closely with the course teams to ensure relevance to the curriculum and project assignments.

- That the video resources are supplemental to, and scaffold, studio-based Technical Instruction. This acknowledges that video resources do not replace the embodied knowledge of studio interaction and guidance.

- Minimum technology – ensuring ease of use of equipment. We used Flip cameras as these ensured that TIs could take ownership of the process. It was the TIs who undertook the filming in order that the camera focused on the most essential technical aspects and panned in on the appropriate actions and parts of the equipment.

- Emphasis on clarity of bite-size technical processes rather than perfection of video presentation. The recordings were limited to a maximum of three minutes with little editing.

- Dedicated time for TIs to film, edit and upload resources, supported by line managers and integrated in departmental planning. This project was initially supported by a learning and teaching enhancement grant but, by the end of the project, it was felt that the benefits to students warrants an approach that embeds the development of video resources within the normal resource planning for courses.

- Technical support from the e-learning team to create the VLE architecture to ensure ease of navigation. Learning Technologists uploaded these to the VLE and designed the 'gallery' that ensured that students could easily find and navigate through the resources.

Acknowledgements

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Contacts

Please contact us if you wish to follow up on any aspect of this project. We are willing to offer consultancy to support the development of an intuitive resources model in your course, department or institution.

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