



University of HUDDERSFIELD

University of Huddersfield Repository

Squires, Paul, Tinker, Amanda and Redmore, Nicola

Reflect, Understand and Plan; An Integrated Learning Portfolio

Original Citation

Squires, Paul, Tinker, Amanda and Redmore, Nicola (2009) Reflect, Understand and Plan; An Integrated Learning Portfolio. In: Futurescan: Mapping the Territory. Association of Fashion and Textile Courses Conference, 17-18 November 2009, University of Liverpool.

This version is available at <https://eprints.hud.ac.uk/id/eprint/10688/>

The University Repository is a digital collection of the research output of the University, available on Open Access. Copyright and Moral Rights for the items on this site are retained by the individual author and/or other copyright owners. Users may access full items free of charge; copies of full text items generally can be reproduced, displayed or performed and given to third parties in any format or medium for personal research or study, educational or not-for-profit purposes without prior permission or charge, provided:

- The authors, title and full bibliographic details is credited in any copy;
- A hyperlink and/or URL is included for the original metadata page; and
- The content is not changed in any way.

For more information, including our policy and submission procedure, please contact the Repository Team at: E.mailbox@hud.ac.uk.

<http://eprints.hud.ac.uk/>

Reflect, Understand and Plan; An Integrated Learning Portfolio

Abstract

This paper describes the approach taken on first year Textiles Design course to enhance the student learning experience. Evaluations and curricular reviews revealed that the students had a fragmented view of the first year curriculum and perceived the academic support delivered through a Study Skills module as “bolt-on”. To encourage students to become aware of their learning development and promote independent learning, the curriculum was re-designed to incorporate a long thin Integrated Learning Portfolio (ILP) module, acting as a spine to link all first year modules. This ILP portfolio of reflective and critical thinking encourages students to articulate and understand their learning development and apply the academic support, knowledge and learning skills across the whole of the curriculum and in planning future learning.

Key Words

Reflective e-journals

Curriculum Design

Independent Learning

Personal Development Planning

Embedding Academic Skills

Background Context

It has become apparent to the course team and the Learning Development team leader through annual reviews, tutorial sessions and student project assessments that there were several issues impacting on the student learning experience during their first year. Evaluation of the evidence suggested that encouraging the student to focus upon and highlighting their awareness of

their learning development would enhance their first year experience and resolved the issues which were causing the staff concern.

This paper describes the approach taken to enhance the student learning experience of the whole of the first year on the BA(Hons) Textile Design course, at the University of Huddersfield, by re-designing just one of the year's five modules. The paper reports on the outcomes of the students' expectations, their learning experience during the year and impact on the planning of their future learning development. The paper will also report on the staff views on the impact of the embedding of study skills and IT in relation to other modules in the year.

The Issues

Skills and knowledge evaluations of the successive first year intakes revealed that the entry profiles of students were variable and constantly changing. In the main, it was perceived that their knowledge of study, research and IT skills and their abilities to operate as independent learners had been rising year upon year especially in the stronger part of the cohort. However, it was also noted that the current structure of the first year of the course did not support the whole cohort sufficiently well.

The first year curriculum provides an introduction to the design process starting with ideas and concepts and leading through to end of the process with textile products in a retail environment. The curriculum is delivered through four 20 credit modules and one 40 credit module. The skills and knowledge developed in projects and assignments within the modules can potentially be applied to multiple points in the generic design process (Fig1)

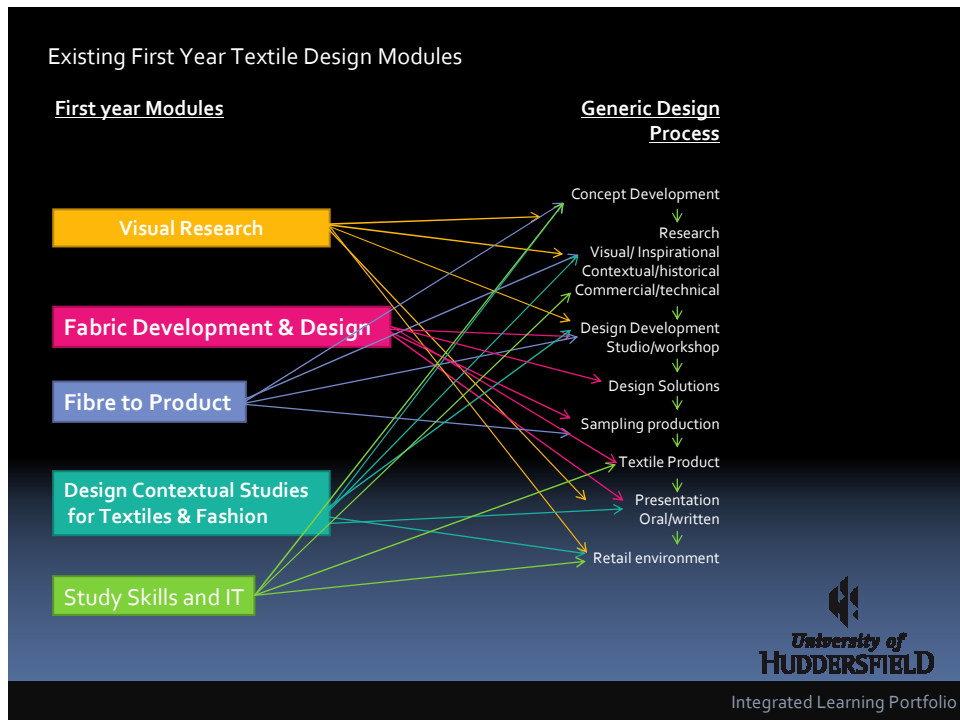


Figure 1: Existing Course Structure Related Design Process

Firstly, it was noticeable that the students viewed the individual modules too much as discrete elements of their year's study rather than as a holistic programme, which introduced them to the complex nature of the global nature of fashion and textiles environment, theoretical and practical subject specific knowledge and skills involved the generic design creation process.

This fragmented view of learning had been commented upon by Tom Hardy when he noted the generic danger of a modular course system:

...the modular approach tended to fragment teaching and learning.
Hardy (2002, pp.52-59)

The programme was supported by a stand alone 20 credit Study Skills and IT module. The delivery of this support as a discrete module produced more issues of concern; the 'bolt-on' experience did not readily encourage the students to apply the knowledge and learning skills in this module to other modules in the programme. It also engendered perceptions of student deficit rather than the enhancement of student learning development, as Wall explains:

Non-embedded skills teaching tends to be perceived negatively by many students

Wall (2006, p.xii)

The Solution

The course team and Learning Development team leader concluded that the effectiveness of the first year programme and the student learning experience would be greatly enhanced if the Study Skills module, previously delivered over one term, was replaced by an Integrated Learning Portfolio module delivered over the whole year. This new module would act as a spine into which all the other modules linked. It was decided that the module should address issues of academic skills, students understanding of their own learning and the holistic nature of the first year programme. It was also decided that it would be necessary to integrate the activities in this new module to 'live' assignments in other modules in the first year programme.

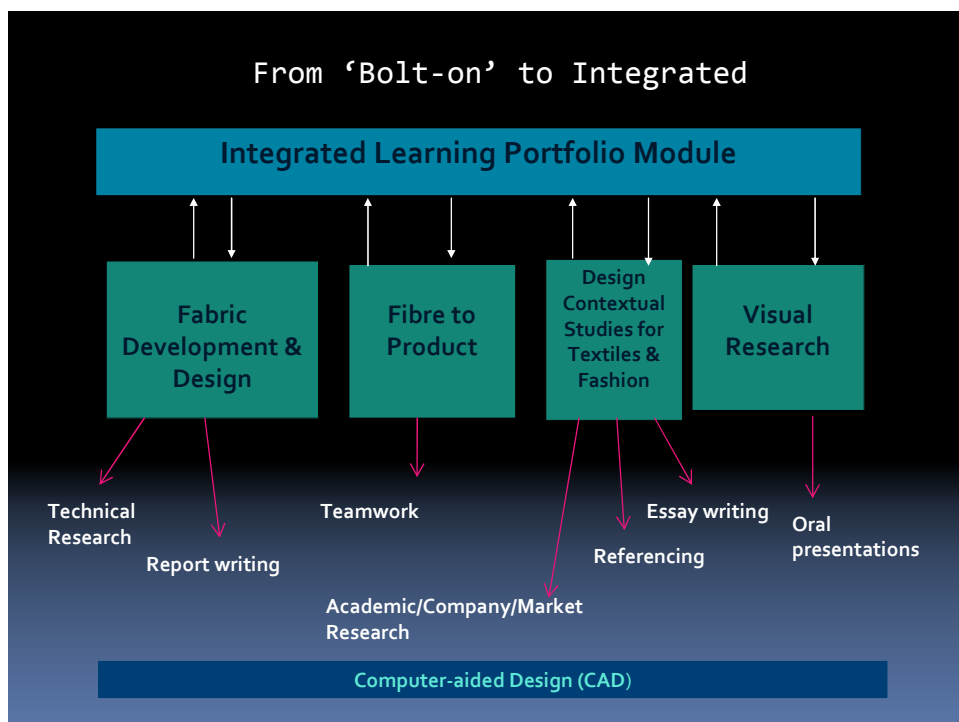


Figure 2: New 1st Year Structure

The ILP module is delivered with academic skills sessions being embedded within the most relevant module at the most relevant time (often incorporating team teaching with the Learning Development Team Leader and the subject

tutors), alongside regular group tutorial workshops on reflective writing and portfolio building.

Summary

- To restructure the first year to encourage students to view their programme of study holistically
- To embed academic skills development as a core element of the curriculum.
- A year long spine
- Reflective and critical thinking to be a very important element to establish strong active links to 'live' assignments in other modules

These changes were implemented for the academic year 2008-09

Capturing the Student Experience

The ILP module is assessed formatively and summatively by way of a progressive reflective portfolio in which students articulate and evidence their learning development and are encouraged to view their course programme and learning holistically, recognising links beyond a modular structure. The students' reflective and critical thinking in the Integrated Learning Portfolio also provides them with the opportunity to consider how their learning development will impact upon future learning and Personal Development Planning. Reflecting on the journey is a key element of the ILP Assessment strategy:

Formative

- Progressive Learning Journal (Blog)
- Four relevant journal entries in the summative portfolio

Summative

- 2000 word reflective report

- Cross-referenced to portfolio of relevant evidence, demonstrating specific areas of learning

This model strongly reflects Kolb's view of experiential learning:

...experiential learning theories emphasize that effective learning takes place when the learner experience a problem and take action, reflect on the action, form concepts on the basis of their reflection and apply these concepts in new situations

Wingate (2006, p.458)

In order to encourage progressive reflection and a focus on process/development throughout the entire module of two terms, the students are using Learning Journals (blogs) in the Blackboard Virtual Learning Environment to capture their work practices, experiences, thoughts, feelings and 'critical incidents'. Students are required to include at least four relevant Learning Journal reflections in their final summative portfolio submission (2000 word reflective assignment, cross-referenced to relevant documentary evidence of their learning, selected by the student from other subject modules), enabling reflection-upon-reflection.

To encourage deep reflection amongst students and move beyond pure description, the module began with a workshop on reflective learning and writing, including the introduction of a triple-entry diary template (Figure 3) which could be used in conjunction with their reflective blogs to promote thinking and as a discussion exercise within this workshop session:

The screenshot shows a web interface for 'e-learning @ huddersfield'. The top navigation bar includes 'School of Art, Design and Architecture', 'My Institution', 'Modules', 'Library', and 'Content Collection'. A user is logged in as 'Admin@Yates'. The main content area is a table with three columns:

Description of Activity/ Experience/ Process/ Critical Incident	Reflections	Documentary Evidence of Learning - Knowledge and Skills
<p>What did you do? Why did you do this?</p>	<ul style="list-style-type: none"> • How did you feel? • What went well? • What could have been better and why? • Does your experience relate to the work/practice of any other artists/designers, theories or learning strategies (contextualisation)? If so, in what ways? • Would you do anything differently, faced with a similar situation? • What changes has it made to me? • What have you learnt from this experience/activity? • How might you apply this learning/skills/knowledge in new situations? • Future actions? 	<ul style="list-style-type: none"> • Understanding the design process (e.g. journal, blog entries, visual records etc.) • Developing and recording ideas (e.g. visual diary extracts, development sheets/sketchbook etc.) • Time/Self Management (examples of strategies, planners) • Visual Research (e.g. visual diary extracts etc.) • Academic Research (e.g. selected exercises from Contextual Studies, Global Sourcing, examples of research/database searches etc.) • Company/Market Research (e.g. selected exercises from Contextual Studies, Global Sourcing, examples of research/database searches) • Product knowledge/research (e.g. selected examples from relevant modules etc.) • Academic Writing (e.g. selected examples/essay extracts from relevant modules etc.) • Academic (Harvard) Referencing (e.g. reference lists) • Team/collaborative work (e.g. team plans, example work) • Oral Presentation (e.g. PowerPoint slides, notes) • Visual Presentation (e.g. photos of boards) • Peer review/feedback (e.g. copies of feedback received and given) <p>You should also show evidence of CAD/IT skills, where appropriate, as part of this documentary evidence</p>

The left sidebar contains navigation options: Announcements, Staff Information, Module Documents, Assignments, Communication, Discussion Board, Websites, Tools, Learning Journals, and a Tools section with Communication, Module Tools, My Portfolios, Module Map, Control Panel, Refresh, and Detail View.

Figure 3: Triple entry diary template

Given this guidance, yet without being overly prescriptive (it was emphasised to students that this was ‘their space’; that blog entries may be informal and could only be seen by themselves and the tutors), the students produced frank, honest and insightful reflections. They were encouraged, for example, to focus on ‘critical incidents’, perhaps write a weekly blog entry or describe, reflect and evaluate their design projects (see figures 4 and 5). The key motivation was that they were starting a regular writing process; moreover, writing about design projects, including visuals, appeared to break-down barriers and ‘writer’s block’ for some students, as they were reflecting on practical experiences with which they were actively engaged.

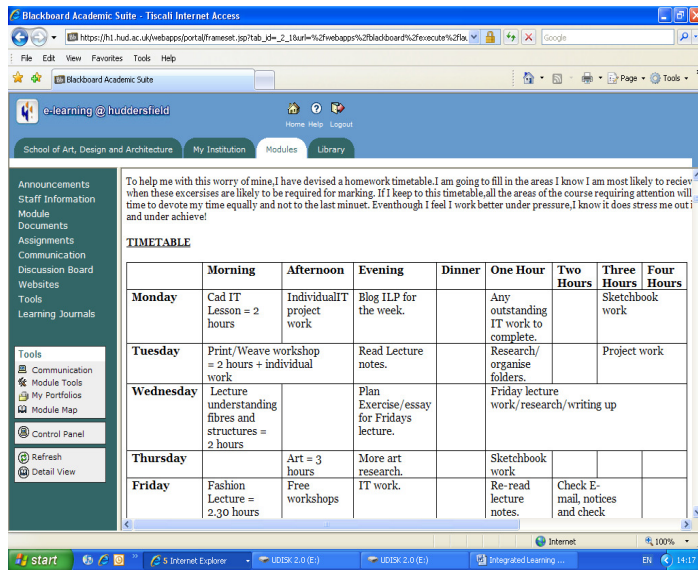


Figure 4: Devising a timetable to help plan work

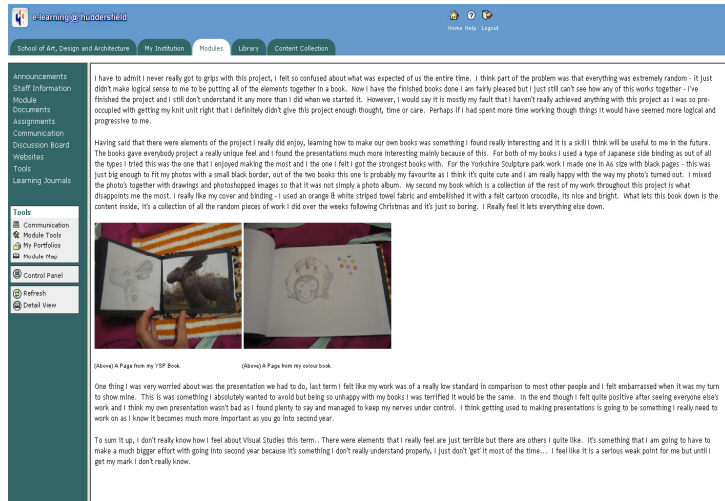


Figure 5: Blog entry with student design work

Students engaged very positively with their blogs and began to realise their value, particularly when reflecting back on these in their final summative assignment. These learning journals provide a real 'window' into the student mind – how they are engaging with the course, which aspects they are enjoying or finding challenging.

Emerging Themes of ILP and the Student Experience

Qualitative analysis of the 220 learning journal (blog) entries revealed several emerging themes, which we have categorised as Challenges and Achievements (figure 6).



Figure 6: Emerging themes in Learning Journals

In terms of Challenges, students were clearly observing and contending with making the 'Transition' from further to higher education, beginning to recognise the importance of independent learning, as reflected in the account below:

I suppose I realise this is where University differs from A' level, there's a lot more to experiment with and tutors are keen to let you be the one in control, as opposed to telling you what you need to do. I really like that; it makes me feel like a proper designer! But at the same time it leaves me feeling a bit blank (if that makes sense) as there's just so much one can do, I don't know where to start! So it takes me a while to get started.

The recognition of differences between further and higher education often led to 'Motivation' issues for some students. In further education (namely, art foundation), students explained that they had been given a large amount of freedom in choosing their own design topics and projects; however, at

university, they were now working within the scope of a set brief, as they would in the design industry. Students reflected upon how they found inspiration, often by making external visits, when the project was not of their own choosing:

During the first term, I found it hard to be inspired by the project briefs that had been set. After doing art foundation the year earlier, I had been used to choosing my own themes that I was enthusiastic about and therefore excited to develop and complete... I am aware that when working for a company you have no choice but to work to the designated brief, so needed to come up with an idea to help me be inspired by a project brief that I am not used to.

The way that I did this was to do as much research as possible, relating both to the subject of Magna, but also branching off on ideas like rust for texture and colours such as red. I also decided to research other artists who created works that would inspire me, I did this when visiting the "Stitch and Creative Craft Show" in Harrogate.

Overall, getting out there, talking to other designers/artists about how they have created certain effects, buying medium to create these effects, really got me excited about the possibilities of me creating my own unusual pieces of textile art, and therefore I was able to approach such projects as Magna with the same enthusiasm as I had with the projects I had created at art foundation when I had chosen the theme of myself.

Students also reflected upon the role of Computer Aided Design (Technology) in their blog entries, which presented a 'learning curve' for some students, particularly evident and blog entries written in the first term:

My key weakness is CAD, so I decided I was going to base my project on CAD even though I could hardly use it! Risky! However, I spent countless evenings in the library and the CAD room in our building trying my hardest to understand it and thankfully... I did!

Second term entries displayed an increased confidence, as students gained expertise, realising the relevance of CAD through their own application in live design projects.

However, the biggest challenge for these first year students was Self management/organisation, juggling simultaneous projects and multiple deadlines. Over 25% of journal entries related to time management issues, particularly during the first term.

Throughout this year I feel time management is the main issue which has let me down on projects. Even though I succeeded in meeting all of my deadlines, I have found myself pressured into getting things done in a short

amount of time. Within the first term, I don't feel my work was up to standard, due to only having four weeks for each brief and getting into the feel of things too late.....I approached the second term with more confidence; I decided to create myself small aims throughout each project, to help me keep on top of what I wanted to do. I wanted to learn from the mistakes I had made on previous projects so I felt under less pressure. Having two six week projects enabled me to play around and develop ideas more thoroughly but having aims made sure certain requirements weren't getting priority over others. Using this method helped me produce a better quality of work compared to the previous term...Experiencing troubles with time management has allowed me to personally learn how to approach projects and I have found setting myself targets/ aims has proven successful. This is something which I will be keeping in mind for the future to stop me falling into previous bad habits.

The above entry was typical of many students; often organisational issues were experienced and recognised in the first term, followed by the students devising their own strategies and reflecting upon the success of these in their second term blog entries.

This proactive approach is evident in what we have categorised as 'Achievements.' Students wrote reflectively, considering what worked well and what they would do differently – action planning for the future:

In future projects I will develop my ideas in my sketch book more so as to get more ideas for my final designs. I will also plan my time better so I can get more work done and will not have to rush my work at the end of the project.

Reflection and setting action points after an oral presentation:-

To improve the situation for next time I will prepare bullet points, so I know what I am going to talk about; I will find items of work that I want to highlight, before the talk; Make sure I am ready to answer questions about my work Prepare a list of questions that I wish to ask my peers and tutors

This was also related to a visible 'Self-awareness' amongst students, displaying an understanding and assessment of their learning development (strengths/areas for improvement) and reflection on their grades and feedback, often explaining why they agreed with this:

It has come to the end of the second term and I am pleased with how the past few weeks have gone. I have received my grade for the recycling fashion accessories project and I am satisfied with my grade and feel that it reflects the amount of effort I put into the work completed, but looking back now I feel I should have explored more the possibilities of using recycled materials and eco friendly techniques. This would have really fulfilled the project requirement and reflected the recycling aspect. I think I improved on identifying my market more accurately as instead of just saying my designs were for fashion accessories of any kind, I focused my designs on a particular accessory which was obi belts as it fitted in well with my theme of folk

costume. I think I will probably take this through into my future projects as it really helped to narrow down my market and it gave me an outcome to fully focus on. Overall I enjoyed the project and was happy with my designs.

Another key theme observed was an overwhelming sense of 'Enjoyment' and enthusiasm within blog entries and 'Pride', which related to more than simply summative outputs but to the challenge of tackling the process - a project , problem, that first essay - and achieving meaningful results:

...It was a really good term and I enjoyed it so much and I can't wait to really get stuck in with the next project and take on board comments given to me by tutors and just be more creative and have fun.

It's a good feeling when you complete something you initially find very hard to start. It's always that first sentence, the introduction, which I struggle with. But once I got that done, I was on a roll! I think though, it was extremely hard to keep it to 1000 words!!!! After gathering all my information, and reading so many different sources, I had so much to write but not enough space... I think this links back to when I did Sociology at College though, because I used to just write and write, there was never a word limit, and so I got everything down on paper, I wasn't selective, whereas this time, I have had to be selective. It's not a bad thing, though! It has actually taught me to re-read every sentence in order to determine whether it is relevant or not! It's helped me to remove irrelevant text and so I've been able to keep it within the word limit :) very proud

Evaluation

Evaluation has involved several different methods – analysis of the 'student voice' in blogs, bench-marking through card-sort activities and accompanying presentations, staff feedback and course statistics.

Bench Marking Student Expectations

The students participated in a series of individual and group activities to introduce and explain the purpose of the new ILP module. These exercises help focus the students' attention on their understanding of their learning process through individual reflection and discussion with their peers. The material produced as a result of these activities also provided a bench mark of the level of student understanding of learning development against which comparisons could be made at the end of the year.

At the start of the year a blend of 'Rich Pictures' (*Checkland and Poulter, 2006*) and 'Card Sorting' (*Higher Education Academy Physical Science Centre, n.d.,*)

activities generated exciting lively sessions rich with information on the level of understanding of learning development and their expectations of the first year of their degree course (Figures 8-11). These sessions, which were enjoyed by students, provided an excellent introduction to the module and invaluable material to inform the evaluation of the impact of ILP. The same format was used at the end of the year to record the 'student voice' on ILP

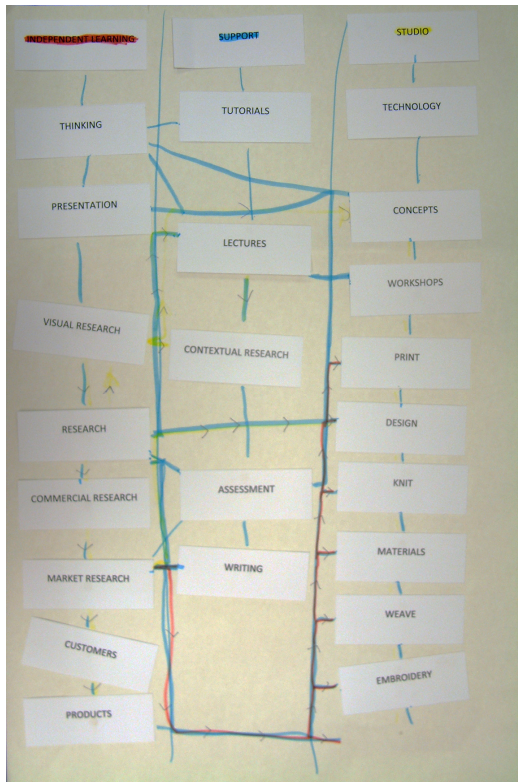


Figure 8: Card Sort Expectations during Induction week

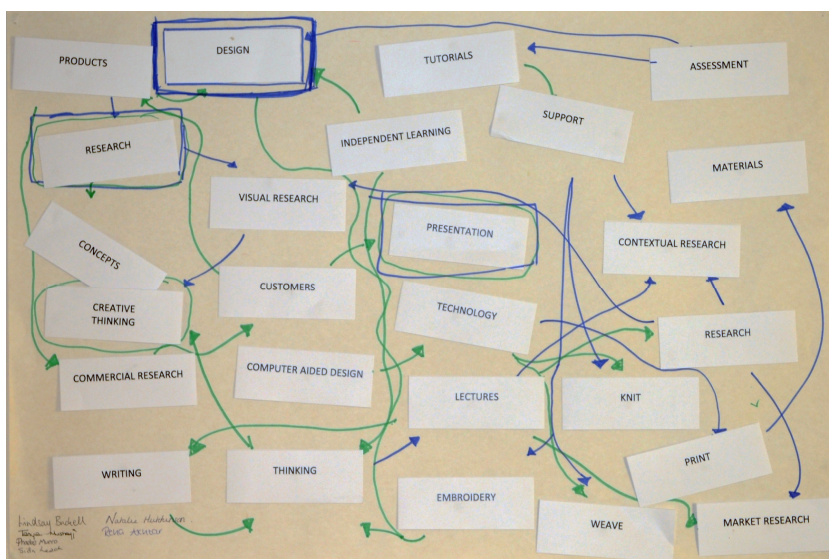


Figure 9: Card Sort Expectations during Induction week

The student discussions following the above card sort activities identified elements of the first year curriculum which were important - research, design, creative thinking, assessment, presentations, support from tutorials, library support etc. However, the vast majority of the students had not previously been asked to visualise how all these elements interlinked with each other. The discussion reflected the card sorts; the structure was complex with all element *'entwined'* and *'linked'* with each other. This reflected the cyclical nature of the designing and learning processes but in a confused manner. However, when asked to repeat the exercise at the end of term two an entirely different picture appeared:

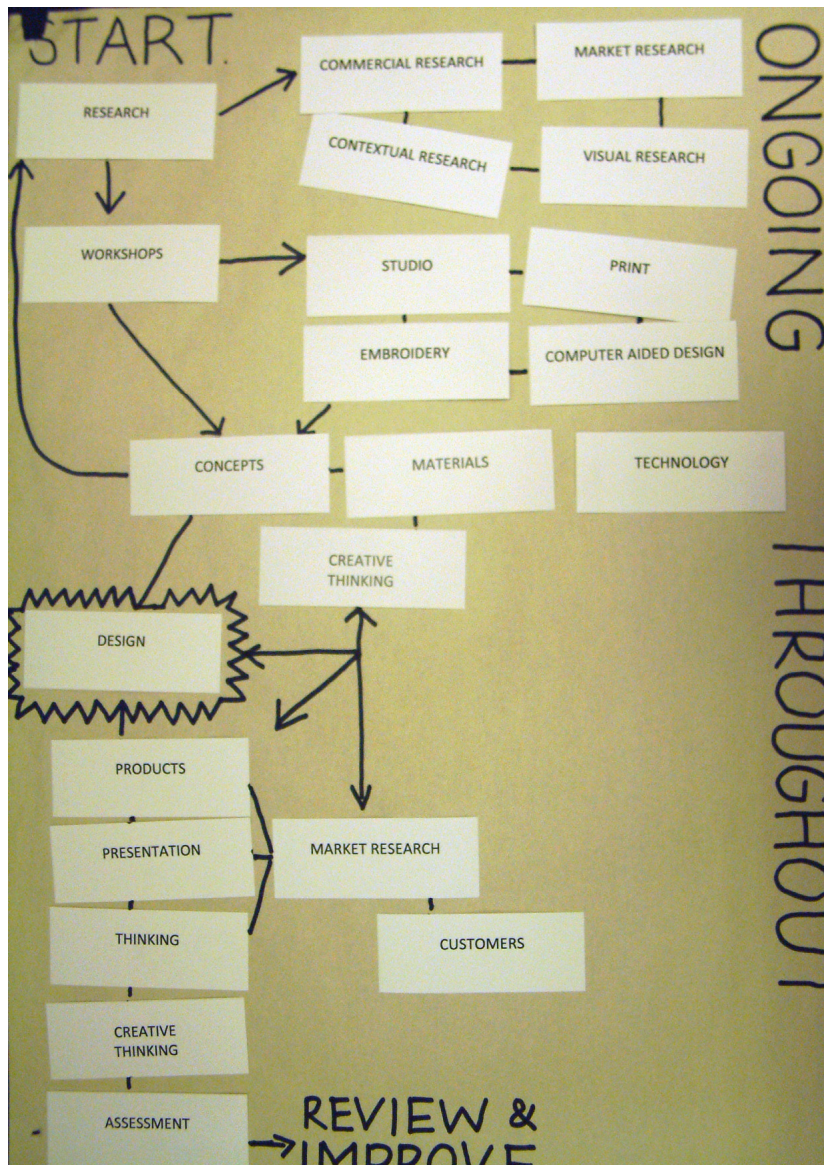


Figure 10: Group 1 Evaluation Card Sort May 2009

Group 1 Comments accompanying the card sort

“What happens when you start a project you think about research and then as it goes down you start thinking about all your workshops and techniques and then your concepts with materials and technology and then you start to think about your design ideas and then obviously about bring you research back into it, you market research which links in your customers. And then like everything on the right is ongoing so you’re constantly thinking about things and researching, about independent learning and finding you own information out from the library. Ongoing support if you need it, constant tutorials and you lectures... There’s no particular order; it’s just everything that you do. You’ve got your assessment, all the different types of assessment like evaluating yourself at different stages of your project and then at the bottom we’re got your feedback and then you review and improve and the whole process starts again for the next project”

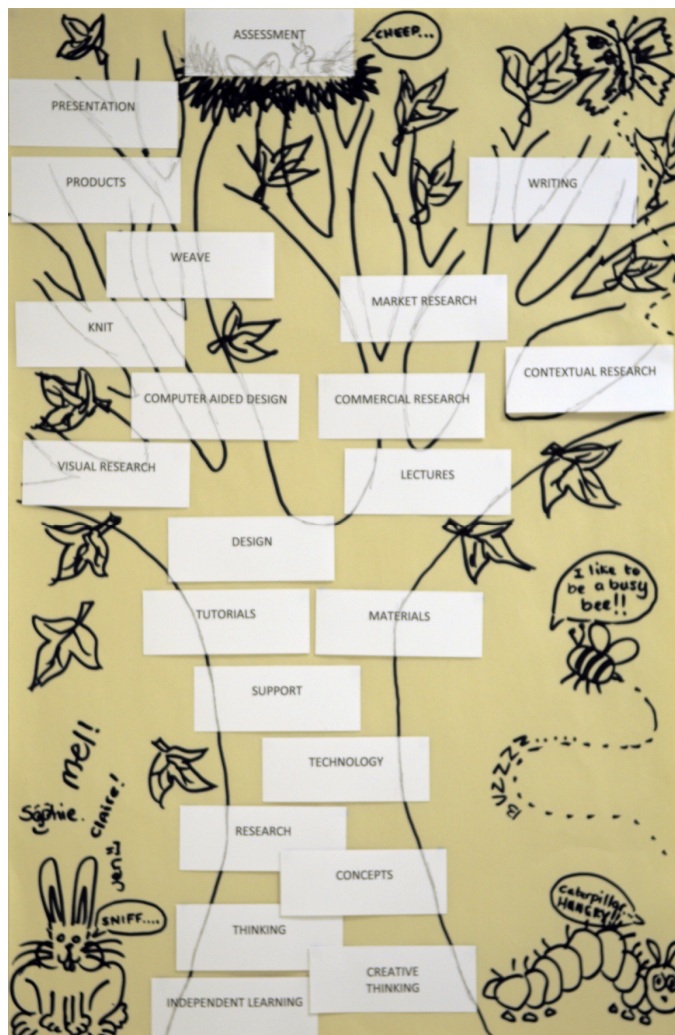


Figure 11; Group 7 Evaluation Card Sort May 2009

Group 7 Comments accompanying the card sort:

“When you start a tree it’s at the bottom and when it grows everything sprouts out from it. It’s the research, there’s just so much that comes from research and so much when you start and then you sprout out and you go; it’s like you’re taking different directions, like if one of you is taking print, knit or weave you’re going to sprout into that section and there’s so many other things you can do; it’s like with print you can do fashion and interiors; You just sprout out and grow and become beautiful”

From the above card sorts and student commentary, it can be seen that there was a clearer recognition and conceptualisation of the design and learning process. Students explained that they valued the organic nature of this self-discovery process and independent thinking and learning was of greater prominence than previously. They were able to visualise a clearer, more coherent structure and identify priorities. This was emphasised further when students were asked to highlight any differences between the first and second term card sorts:

...you don’t realise how things link at the beginning; you don’t know what’s expected of you so you don’t know how to link things together so it has changed from the beginning in that sense

...easier to structure because you know what’s expected of you. You know how the week runs and you can fit all elements into, before you were just basing it on what you’d done at college, which was that you did, a bit of research but everything was more, you were supported by it. And now it’s more on your own; you do think a lot on your own. You do all the design work and it’s all fitting in with an instruction, a brief.

When asked to summarise their experience of the year and the role played by reflective writing, students were overwhelmingly positive, as illustrated by the following comments:

“.....understand what you have actually learnt.....helped me see that I have been learning and not noticed [it]”

“..... changed how I will record my learning in the future,...additionally my formal writing technique has improved”

“Helped me understand my strengths and weaknesses in depth; useful in documenting my learning development which has had an impact on the way I work.”

“Interesting seeing how ideas/opinions changing space of year Useful - reminds me of things enjoyed/ didn’t enjoy. Can help to think up new ideas

and see strengths/flaws/improvements needed. Essential to keep learning new things”

“Hard but interestinghelped me to remember what I had done throughout the year and showed the progress and development made.”

“.....helped me realise what to change next time”

“I now understand how I have developedand shows my achievements.....thoughtful and gives direction”

“I’ve found that reflecting on your work allows you to see how and what you can improve and where your strengths lie. I also find it a form of self encouragement and it shows how you are gradually growing.”

The student response has clearly identified the ILP and its reflective learning as a transformative catalyst; students have recognised the value of this process for change and self discovery.

Staff Evaluation and Course Statistics

The Textile Design course team have also recognised the benefits in student learning, improved results and a smoother transition process into the second year of the course.

“Evidence from this, the first year of the ILP module has already demonstrated that students understand the bigger picture sooner and are able to form clearer connections between their design work and other supporting modules. They found it useful to reflect upon what they had already achieved using their ILP Blog and many cited an increase in confidence as a result of this.

Students at the end of their first year choose either print, weave or knit as a specialism. This process can often be shrouded in a fog of confusion for many first year students however in May 2009 this was not the case and the mist of uncertainty appears to have been lifted earlier in the year. This increased confidence and awareness of their learning development and direction in which they wished to go is a strong indication of the impact of the ILP in improving their transition into Year Two. We expect the first year students’ experience of ILP to impact on their second year and beyond as we recognised there are some current second Year Two students who had not benefited from this new module who continue to find it hard to make connections and see the relevance of teaching on different modules. There were also staff benefits in that the transition process for student was far smoother and less time consuming than previous years.

The benefits of the ILP module as the central spine and glue for their modules was further evidenced in a welcome reduction in referrals and failures of modules at the close of Year One. Skills from the CAD lessons were in particular, used by the students to develop ideas from visual studies and to present finished work in a more coherent way than previously seen.”

BA(Hons) Textile Design Course Leader

Course statistics have also demonstrated a positive quantitative outcome, as shown in Figure 7.

	No of students referred or failed	%	No of students referred or failed	%	% Change
Module	2007-8		2008-9		
1126 Visual Studies	5	7%	2	5%	- 2%
1127 Contextual Studies	4	8%	1	2%	- 6%
1128 Study Skills and IT	14	26%	n/a	n/a	
1171 ILP	n/a	n/a	1	2%	-25%
1190 Fibre to Prod	6	11%	1	2%	- 9%
1196 Design	0	0%	2	5%	+ 5%
Total Students	52		41		

Figure 7: Comparison of Refer/fail rates in First Year Modules between 2007-08 and 2008-09

Comparison of the results in first year modules for the year prior to the restructuring of the first year curriculum year and the first year incorporating the ILP module shows that there was a substantial reduction in the number of referral and failure grades across the whole year. The only exception was the Design module 1196; the course team commented that the zero referrals rate was “most welcome but an extraordinary set of results”. When comparing the Study Skills and the ILP module results, there was a remarkable 25% reduction in referral and fail grades.

Conclusion

An insight into the extent to which the ILP module has enhanced the first year student experience is evident in the evaluation of its inaugural year. The year has seen **improved grades** in study skills/ILP “*a remarkable 25% reduction in referral and fail grades*” and a transition process for students that “*was far smoother and less time consuming.*”

Evidence of the student journey being enhanced starts at the **Transition** point and is apparent in the student blogs in the emerging theme section “*..../ realise this is where University differs from A levels....*”

The same section provides an enhanced feeling of **Self confidence and awareness** “*my key weakness is CAD.....*”; the highlighting reflective writing section reveals that ILP “*helped me understand my strength and weakness*” The sense of **Enjoyment, enthusiasm and achievement** came through in students comments “*It was a really good term and I enjoyed it so much and I can’t wait to really get stuck in with the next project and take on board comments given to me by tutors and just be more creative and have fun.....very proud.....*”

Improvement in the ability to **self manage and plan future learning** was also frequently commented upon by the students “*Even though I succeeded in meeting all of my deadlines, I have found myself pressured into getting things done in a short amount of time.... To improve the situation for next time I will.....but looking back now I feel I should have explored more...*”

The ability to **Reflect, Understand and Plan** their learning is evident in both student, “*understand what you have actually learnt.....helped me see that I have been learning and not noticed [it]...*” “*I’ve found that reflecting on your work allows you to see how and what you can improve... helped me realise what to change next time*” and staff evaluations “*that students understand the bigger picture sooner and are able to form clearer connections between their design work and other supporting modules...*”

The Future

The Integrated Learning Portfolio will operate in the first year of all Textile courses from September 2009 and has attracted considerable interest from other Schools in the University; the expectation is that it will be adopted in other areas in the coming year.

The principal of using Reflective Writing will be developed during the second year of the Textile Design course, where it will focus on professional practice and career planning.

References

Checkland, P. and Poulter, J. (2006) *Learning for action : a short definitive account of soft systems methodology and its use for practitioners, teachers and students*. Chichester: John Wiley.

Hardy, T (2002) Farewell to the “wow” factor? *International Journal of Art and Design* 21 (1), pp. 52-59.

Higher Education Academy. Physical Sciences Centre (n.d.) *Using card sorts: a short briefing paper* [online] Available at: <http://www.heacademy.ac.uk/assets/ps/documents/briefing_papers/ps0008_using_sort_cards_jul_2005.pdf> [Accessed 11 September 2009].

Wall, A. (2006) Introduction in *Writing matters*: Davies, S, Swinburne D. and Williams, G. (eds) *the Royal Literary Fund report on student writing in higher education*. London: Royal Literary Fund, pp.xi-xv.

Wingate, U. (2006). Doing away with “study skills”. *Teaching in Higher Education*, 11 (4) pp.457-469. citing Kolb & Fry, 1975