iPads for Illustration

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Teaching Fellowship Award Scheme
Final report
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Title of project iPads for Illustration
Type of project (e.g. Survey/ Case Study/ Action Research/ Development)

Information/letter on ethics approval (see appendix 3)
Information/progress on conditions (If your initial TFAS application was ‘approved with conditions’, please provide evidence that these conditions have been met in at least one of the reports.)

Please provide some information about the project, in the format below: (1-2 pages)

Aims of project
The aim of this pedagogic research project is to aid student’s reflective practice in an environment that is not suited to written critical reflection. To this end we have used technology to capture the students working practice in order for them to re-visit the work at a later date, enhancing their ability to develop their practice as well as critically evaluating the work of others. The projects main aims can be broken down in to:

• Innovatively use and assess pedagogic value of “Brushes” app and new iPad technology in an arts context.
• Aid student learning, understanding and reflection of methods and processes involved in drawing, both for themselves and others, through the use of Apple iPad and the “Brushes” app.
• Capture student attitudes towards the use of such technology in illustration both before and after the use of iPad on their module.
• Facilitate a student exhibition of works created using “Brushes” app on the iPad.
• Through the use of technology encourage positive attitudes towards contemporary mediums within the field of illustration leading to improved employability and student experience.

Background to project (or context)
Module background
The module ILLUS241 Extending your Drawing is the second 10 credit drawing module of the 2nd year of the BA illustration course. The intention of this module is to look at the process of drawing. Drawing practice in illustration and other art-based subjects has for many years relied on the final image as a demonstration of learning, the processes behind the work are only unlocked by the artist as a storyteller, explaining their
methods as best they understand them. Since the invention of the iPad the ability to construct and "playback" the creation of the work opens up a whole new area for viewing, learning and reflecting on ones own drawing practice in real time.

The BA Illustration programme aims to support creative development within a creative studio atmosphere to explore traditional approaches and introducing more experimental avenues. It has embedded a strong ethos of 'drawing practice' as a basis for the development of a healthy illustrative practice. It is proud of its ability to change and develop along side this dynamic industry and intends to keep up with technological advancements in the area.

Reflection can be defined as ‘...a generic term for those intellectual and affective activities in which individuals engage to explore their experiences in order to lead to a new understanding and appreciation.’ (Boud, D. et al 1985) This study is concerned with the use of iPads and the app ‘Brushes’ as a tool for understanding one’s drawing processes and drawing practice through the use of critical and reflective practice. Reflection can lead to a greater understanding of the subject in hand. It is a way of thinking, a way of working, which can be applied within various aspects of education and can alter the way in which students learn.

When drawing, you are constantly reflecting, constantly adjusting and adapting to changes and reacting to your actions. Normally it is impossible to think back and reflect on your actions, as you cannot see your process after the event. The importance of the iPad in this study is that it gives the user the ability to watch and replay the creative process, and reflect upon it, hopefully leading to a greater level of understanding and learning, and improving the student’s own practice. ‘We define reflective learning as an intentional social process where context and experience are acknowledged, in which learners are active individuals, wholly present, engaging with others, open to challenge. And the outcome involves transformation as well as improvement for both individuals and their environment.’ (Brockbank, A. 1995: 36)

The module leader integrated the use of the iPads into the life drawing space, with half the students using the iPads and half using traditional techniques, with the aim of making the iPads just another drawing tool, and not something which would entirely alter how the students worked. All learners have a preconceived idea of what their actions will be in a given situation, in this case a preconceived idea about how they draw. The observation in this instance comes from the use of iPads giving the opportunity to play back the drawing process, enabling reflection-on-action and therefore a re-evaluation of personal espoused theory.

So, just as the educators justify the way they teach using existing theory, students believe they are drawing and therefore learning in a certain way, when in fact after reflection takes place the reality may be entirely different, leading to a deeper level of understanding.

The philosopher Donald Schön, emphasised the importance of reflection when trying to bridge the gap between theory and practice. If you can reflect upon your own practice and apply theory to this, then learning is enhanced. Schön used the terminology ‘reflection-in-action’ and ‘reflection-on-action’ to describe the two stages into which reflection can be broken down. Within the creative world, and more specifically when drawing, reflection-in-action is a constant, natural process. However, the decisions made during the drawing process, these moments of reflection-in-action have been almost impossible to later reflect on, as up until recently, there has been no way of watching the drawing process back. Students were making judgements on their work using a finished drawing, which does not lead to an improvement in their process, only a desire to make a better ‘final piece’.

Methods used

Students were asked to reflect upon their drawings which had been uploaded to the internet on a private YouTube channel so they could be accessed remotely and watched back in the students own time. The process of uploading images and videos was done by RS at the end of each session and although worked for the purposes of this project would need further consideration when embedding in to the module in future (see appendix 1 for more details).

Before the module began, students were asked a number of questions regarding their current attitude towards technology within their drawing practice, and how they currently reflect upon their practice...
The questionnaire results suggest that for the most part students recognize the importance of reflection to aid their practice. However it became clear that their current methods for reflection could be improved, particularly with regards to focusing their reflection on finished drawings, rather than improving their drawing technique through viewing their process. Until now, this has not been a practical or viable option within the studio environment.

The response and level of engagement from students was very good, with a majority of students eager to experiment with the iPad. There is always a danger that the excitement comes form the chance to use the new technology rather than to engage in reflective learning, but if the initial draw is because of the technology, the results with regard to encouraging reflection will still happen, as long as the student completes the tasks within the module and takes the time to watch their videos back, then the opportunity to reflect upon their work is there. Reflection upon the videos was left to the students to do outside the studio, as you can only watch a very fast playback within the Brushes app. A suggested development for the app would be the ability to control the speed of playback to enable the students to watch their own and their peers' videos within the life room. This would enable them to begin engaging in reflective dialogue. However, if this change to the app were made, the structure of the sessions using the iPads would have to be carefully monitored. It has been written that drawing and the processing of visual information take place in different halves of the brain (Edwards, B., 2001), so when students are engaged in their drawing practice, it would not be beneficial to suddenly ask them to engage in reflective and analytical dialogue in the middle of a session and then ask them to go back to drawing. Data collected from the students after the study suggests that they benefited from being able to reflect upon their drawings away from the studio. The benefits of engaging in reflective dialogue individually, and also with peers and tutors is, however, undeniable. The tutor, acting as the facilitator, must provide students with the opportunity to engage in reflective dialogue.

‘Facilitators need to be aware of process, and part of their role is to enable learners to analyse their learning process, to review, through reflective dialogue, what has occurred between themselves, other learners, teachers and the outside world. Such dialogue enables students to create understanding and meanings for themselves, which connect their learning to reality. An understanding of process for learners offers the possibility of grasping how their learning happens, and hence, how further learning may happen.’ (Facilitating Reflective Learning in Higher Education pg 216)

Taking this into account, students may benefit from the opportunity to have a session where videos are watched and discussed as a group, allowing the opportunity for critical reflection to take place.

‘(Talking about walking around at the end of sessions looking at each others work) I thought that was quite good as you can see how other people did it as well, when we walk around the room the room and look at each other’s work. I think both can be quite good- its good to look at things later because you can put it out of your head for a while.’ (TF Interview 4 Appendix 4)

The value of playback to aid reflective learning has been previously discussed in the research paper ‘The Performance Reflective Practice Project’, a study into using video playback within the study of dance, theatre and performance by De Montfort University. ‘Standard VHS video equipment was used. Students are familiar with this format and can view it readily. Each pair of students kept a cassette on which consecutive recordings of their partner work were logged. This provided an ongoing record of the development of their work. For the first few weeks, the students were engaged in learning the repertory material and the partner work principles underpinning it. In demonstrating the material and teaching it to the students we, as tutors, were careful to reflecting- action by making explicit our thought processes as we danced together.

In talking and dancing in this way we modeled an approach to reflection on practice in action.’ (Doughty, S., Stevens, J., 2002: 3)

The intentions of the above projects use of playback technology, is similar to the desired outcomes from the study using iPads. However, there is one huge difference that sets this study apart- the students who were being filmed dancing were doing nothing different to how they would normally perform, apart from the fact they were being filmed. Students taking part in this study were faced with a completely new medium.

There is a danger that students will change their aims with regards to their drawing. In essence they may set out to create an iPad drawing, rather than simply using it as a tool for drawing and working in their own style. There is also the temptation to alter drawing style so as that you can use the many tools and options
within the Brushes app. Evidence of this can be found in the data collected during interviews with students after the module had finished.

"...for life drawing its really really useful having the huge range of colours." (TF Interview 1)

The fact students felt they could be more experimental is, however, a hugely positive thing. And this experimentation is something that can be carried into their wider drawing practice outside the life room. Although it is a somewhat unanticipated outcome of the study, there is no doubt that it is a positive one and may be something they carry through to their normal drawing practice within the life room. Throughout the module students were encouraged to reflect upon their work within their sketchbooks. Previous to the study, students could only ever reflect upon finished work, meaning they weren’t reflecting upon their process, merely on the end result. Whereas students before may have described their work at a very basic level, using phrases such as ‘good’ or ‘not in proportion’.

The following extract is taken from a student’s sketchbook,

"...I can see that I quite often start with their shoulders when drawing. I can also see that I tend to put some sort of face detail in early rather than leaving it to the end like I know I used to do.”

The difference may be subtle, but the student is demonstrating that they have engaged in true reflection of their practice as they are considering how they thought they worked, and what the video revealed them actually to have done. This is real progress and is something which can benefit students of all abilities, but in particular the lower-achieving students. The iPads allows them to be more experimental and draw with less caution than they may have before. The playback option also offers them the chance to view and learn from higher-achieving students as they can see their process rather than just feeling intimidated by their final images.

In essence, the key to reflection is becoming aware of our actions, rather than treating them purely as subconscious behavior. The playback function within the Brushes app allows for the unprecedented opportunity for students to reflect on their practice within the learning environment. The ability to replay your drawing process back, and then to analyse decisions that were originally made in a split-second, can only been made possible through the use and incorporation of new technologies. Although it is not without its faults, and is currently not a replacement for traditional drawing methods, there can be no denying that it allows students the chance to reflect upon their drawing process and gives them the opportunity to learn from it, and this can only be a good thing. The technology is a viable option to allow for deeper levels of reflection if it can be incorporated into the module with traditional techniques taking the lead, meaning that the iPad is seen by students merely as a learning tool. Suggestions to improve the module further would be to provide students with more information and guidance on how to reflect on their own work. This is something that could be set up with Information Learning Services (ILS).

Results

1. The projects initial success has provided a platform for it to be embedded into the module ILLUS241 Extending your Drawing for the foreseeable future. This will in the first instance be incorporated as an addition to the drawing portfolio handed in for assessment but with an eye to change the current Assessed Learning Outcomes (ALO) to incorporate ‘the use of technology as an aid for reflective practice.’

2. The critical reflective skills of students has improved, and it’s benefit to their practice has been a positive addition

3. A set of recommendations to be drafted for the developers of the ‘Brushes app’ to include: Adapting the ‘playback’ on the device, so that the speed of playback speed can be adjusted.

4. Project feedback to Technology Enhanced Learning on implementation of iPads management and made recommendations.

1 DO qualifies this statement ‘lower-achieving students’ as a student who’s practice is not a fluid, and confident in response to visual stimulus, this being the opposite of a higher achieving student being comfortable and confident with her/his visual response, and is not advocating one way of drawing is best, but more that the individual student inner belief and confidence with their materials is key to higher achievement.
5. Three student’s who were part of this research, bought iPads and made them an integral part of their practice. One student used the ‘brushes app’ and other software as part of an illustrated project.

6. Free online resources available from (technologyenhancedlearning.net/ipadsforillustration) allowing other institutions to run the same/similar project

7. Continued research into reflecting on drawing practice, bringing in structure by utilizing help from ILS in the year 2012/13

8. Dissemination via

- paper delivered at the Drawing Research Network (DRN) conference 2012 (appendix 2)
- Presentations at Plymouth University with Dr Neil Witt and Robert Stillwell. (see link …)
- Website blog at http://technologyenhancedlearning.net/ipadsforillustration

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**Websites**


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**Associated publications** (these should relate to the project, and give full reference)

**Website** [http://www.technologyenhancedlearning.net/ipadforillustration](http://www.technologyenhancedlearning.net/ipadforillustration)

**Keywords** Reflection, digital literacy, technology, drawing practice, iPads (one or more if possible – see ‘pedres’ database for examples)
Appendix one

The aims of this project are primarily to investigate if there is pedagogic value in the use of iPads; however, in order to provide maximum benefit to others from our work we have tried to capture the workflow we adopted with the students and the logistical management of a (very) small fleet of ten iPads.

Device Management Scenarios

The best scenario would be all the students having their own iPad devices, each could then install the brushes app and then manage their own work. However this is definitely not the reality or an assumption which can be made, also there is the limitation of the app being unavailable on other platforms.

The next best scenario would be having enough iPads to loan to each of the students for the duration of the module or course. They could then manage their content on the device during this period, and copy it off at the end. It would give students more freedom to personalise the device if they used their own iTunes account for this - some may need to register and could be reluctant. This does then raise issues about students having to buy apps specifically for a course, however this does happen elsewhere on technology courses.

To provide iPads to all students would require considerable investment in hardware. Although some institutions are doing this (REF) Plymouth’s digital strategy specifies device independent content as one of our priorities so this is highly unlikely to happen.

The strategy we adopted for this project involved using a small number of devices (10) which were provide to students for the duration of the session. The devices were all setup by us with the brushes app and an email account on them allowing us to copy off the images and videos at the end of each session (see workflow below).

Content and Device Workflow (during intervention)

The following are the steps that were undertaken by Rob in the role of Learning Technologist supporting the in class sessions.
Uploading Brushes images to flickr
At the end of each session I use the send to flickr feature in brushes which works brilliantly. The one issue is that only the image title shows up and not the artist name field. I have tried to encourage the students to add all the relevant information to just the image title now. A point worth noting is that there is a limit of 200 images on flickr – I’ve had to upgrade to a paid account as a result of this.

Creating videos and uploading to youtube
Once the images are on flickr I then email a copy of the image actions for every image to my work email (adding ipad number to subject so I know which student it is). On average I am looking at 30-40 images per session so 60-80 in the day. These actions then need to be saved, opened in brushes viewer, exported to a video and then uploaded to youtube. This probably takes me around 3 hours in total with naming etc.

Email accounts on iPads
I have actively encouraged students to email copies of their images to themselves at the end of each session. Also those who have macs I have encouraged to have a play with the brushes viewer to create videos of their work. In order to be able to email images I have set up the same email account (a gmail one) on all the iPads. This has worked well except for another project needing the iPads for the half the week when we don’t need them. To get around this I turn the email off and remove the last digit of the password (saves someone requesting the password and then changing it which would be mightily annoying). However this does take time – worth considering the risks of supplying an email account with an iPad.

Batteries / Charging
Each week we have two student sessions, 2.5 hours in the morning and then the same in the afternoon. Firstly I must say the iPad2 battery life has been fantastic considering the 5 hours of solid use they receive, the lowest I have had a battery get to is about 50%. I then have to charge each one at the end of the day which involves rebuilding each charger and plugging in, probably takes me around 10-15 minutes in total.

Hygiene / Screen protection
I have decided to clean each iPad with sterilizing cloths at the end of the day. The screens tend to look pretty grubby by the end of the day. I’m not particularly fussy about having everything super clean but think this is a sensible thing to do. We currently don’t have screen protectors on the iPads though I have put in an order for some. Unfortunately a couple of the iPads have sustained minor scratches from the stylus, possibly where it was used at an angle.

Transportation / Storage
This has been an area which could do with improvement. The iPads are numbered and have a corresponding box (the original packaging) which they are stored in. Ten iPads are transported in their boxes in a plastic box to the sessions with students. It isn’t secure, takes up more space than necessary and it is time consuming to sort the iPads back into the boxes. This is something which needs to be improved for long term embedding of use of these devices within courses.

Syncing and Imaging the iPads
During the project we had use of the iPads for two days a week. Another project elsewhere in the institution had access to them another day in the week. This meant the devices needed to be checked, charged and re-imaged if necessary (ensuring the app and email were on them) before we could use them again. This was fairly time consuming. Ideally each project could have an image which could be put on the device relatively quickly ensuring they were set up appropriately for each projects needs. At the time of this project this wasn’t easily possible but fortunately both projects weren’t requiring vastly
different setups so were able to work around this. However for regular use by a number of different groups this would be a time consuming issue.

The Future / Embedding
Following the success of the initial intervention we plan to embed this as part of the course. In order to do this we will need to change some elements of what we did. A lot of this revolves around the use and management of the devices.

Moving, Syncing, Sharing
The project has given feedback to the Technology Enhanced Learning (TEL) team throughout the project resulting in the purchase of a flightcase which can be used to transport, charge and more easily sync the devices. Also we have been actively disseminating our work through the institution inspiring others to consider using the iPads with their students. As a result TEL have invested in more devices. These investments will make embedding slightly easier as there are now more devices and it is a lot easier to transport and manage them. The flight case can also be secured now by padlocks and also tethered up to prevent theft if necessary.

As mentioned above the syncing and imaging of devices so they can be used by a range of user groups quickly and easily is an issue. In time this should be much less of a problem. Apple have released a program called Apple Configurator which allows a much more specific configuration of iPads which can be easily applied to a number of devices. This would certainly make things a lot easier when undertaking projects such as ours. It also allows you to restrict certain features such as disabling the camera which would be useful in the life room. The current issue which prevents us being able to take advantage of this is that it relies on the new Apple Volume Purchasing Programme which is currently only available in the USA. This is similar to a traditional licence purchase system which large organisations currently use so in our context we would need to buy 10 or more licenses of Brushes instead of the 1 which we were able to share during this project. However the advantages would be worth the extra cost.

Students Managing their own work
The other area which will change significantly upon embedding into the course is the actually responsibility for the images and videos created. During the intervention we took care of a lot of this for the students but this is simply not realistic or beneficial for the students in the long term. The aim will be for the students to email themselves their images and the actions (used to create the videos) of their drawings and then create the videos using the brushes software on one of the mac computers they are able to access in their workspace. They may also be required to add it to a blog as part of the module but this is yet to be decided.

Through these tasks the students will be taking responsibility for their own work and also gaining valuable digital literacy skills.
The Draw of Technology

Abstract
This paper, discusses a recent pedagogic research project conducted at Plymouth University, which investigates the use of the iPad with Brushes app as a tool for understanding ones drawing processes and drawing practice, through the use of critical and reflective practice. Under the current method of teaching drawing within HE we have two models, lecturer taught/demonstrated, and student-practice and discussion. Both these models rely heavily on the use of final ‘drawing’, to act as a discussion point, to learn about the very personal act of ‘drawing’. The iPad and other related digital tablets, path a new way of group learning. The software Brushes, supports students understanding of their own drawing, by allowing them to work in a taught controlled environment (life room), but with the added element of being able to watch back the video of themselves drawing (the software plays back the drawing mark-by-mark), allowing the student to locate themselves in a different frame of mind (out of the life room), where they can be more objective about their drawing process. The paper will discuss:

- The potential flaws in using technology – after all, are drawings drawings if they have not been drawn but generated?
- What we have learnt and best practice
- The anonymity of digital drawing/the draw of the technology
- The possible future implications of teaching drawing, in educational institutions within the digital age.

Biographical Data
Dean Owens BA (hons) MA is a Lecturer in Illustration with Drawing at Plymouth University. He has written for Varoom magazine, Post journal and in 2009 his pocket book of drawings A Book Made of Tears was published by Atlantic Press. His research is in drawing, and each research project undertaken is an attempt to build a body of work, that shows the importance of drawing, within the 21st century shift towards digital platforms. By embracing these platforms but keeping true to the understanding of ‘traditional’ drawing, it is hoped that a clearer and sustainable future for these technologies can emerge.

Robert Stillwell is a Senior Learning Technologist at the University of Plymouth. He has worked within new media and e-learning for the last 8 years. For the last 5 years he has been working on
a number of JISC funded project research projects.

The current project, SEEDPoD, is investigating the embedding of digital literacies at Plymouth University. Other completed projects include PINEAPPLE, investigating APEL (Accreditation of Prior Experiential Learning), UsPaCe a web2.0 toolkit project and UPlaCe a repository start up project.

Rob also works as a professional photographer and has worked as a consultant developer on a number of IPR and Copyright projects with and Web2Rights.

Main Text

Length of text (2656)

In 1956, the film maker Henri-Georges Clouzot, teamed up with the then and now world wide phenomenon that is Pablo Picasso, to make a documentary film called Le mystère Picasso (The Mystery of Picasso). The films title leads us to believe that we are about to see the inner workings of a master, that there is some kind of mystical ingredient behind making works of art above and beyond just doing it, and the film was to unveil that mystery. This does not happen. Picasso is a performer and although it is magical to see Picasso’s work emerge on the screen – which has been produced by the camera filming the back of a well lit canvas – it is not telling either us, nor Picasso, much about his practice (other than his unrivalled adaptability). But it does highlight that the idea of using current technology to capture an artist’s working process is viable, realistic, and how captivating and insightful watching the artistic process unfold before your eyes can be.

In 1956 you needed a full camera crew, heavy equipment, highly refined technical knowledge and a hefty budget to record an artist’s working practice, and that hasn’t changed much since then. Camera equipment has got cheaper and lighter and the development of digital film has made it accessible to do this, but very few have, because it is still quite a cumbersome, lengthy process. A high level of technical skill is often required, and the process is often deemed to be too intrusive to be beneficial.

2011 was the year the iPad burst on to the scenes and caused a general (fairly considerable) stir because of what it offered in terms of portability, but mainly for what it offered in terms of sexiness. The argument about the genuine need for products such as the iPad is a modern and complex one. The undeniable success of the iPod and later the iPhone, led us to believe that Apple knew what the consumer needed and therefore we must need an iPad, but “…this product has divided critics, raising questions about its purpose’ (Brabazon 2010). For several years, the artist David Hockney had been using his iPhone to make drawings, and with the invention of the iPad,
he was quick to pick it up and utilise it as a digital sketchbook, similar in size, he even got his tailor to add an iPad sized pocket to the inside of his jackets. Hockney uses the app Brushes, it is by far not the only drawing app available on the market but the main difference – and the difference that has caused us to develop a research project – is that the Brushes app plays back your drawing, plays back your drawing in the same way that Clouzot’s film shows us Picasso’s line appear action-by-action as if by magic, but the Brushes app does it automatically; in fact you can’t actually stop it from doing this.

The anonymity of digital drawing

Just at the same time that Hockney was embarking on his ipad drawings for the Royal Academy show in 2012, we started to think that this device, and more importantly this app, would be a great learning tool if we could put in place a system to use it that would allow a greater sense of self-reflection; as Hockney himself puts it ‘it was the first time I had ever seen myself draw’ (Gabbatt 2010). This is key, as the majority of teaching of drawing that goes on, is based predominately on either demonstration led, or supervised, with most if not all critique happening at the end of the act with the resulting ‘final drawing’. Little can be discussed at length or depth about the ‘drawing process’ as it happened, because it has gone, and all is left is your memory, which if you were truly engaged in the act of drawing, you will not remember accurately what changes were made etc.

The title of this paper, the draw of technology, highlights one of our main concerns about using technology for this project. As I eluded to earlier, the iPad and mac products are designed to be desirable, and that being so, we knew that the students would be motivated to use them but we were also aware of the ‘dark side’, the inevitable pull to make ‘digital drawings’, drawings that makes everyone’s drawings look the same, slick and refined. It would be detrimental to the whole project if this happened, as we were concerned not with making drawings, not with making digital drawings, and not with sexy technology but with the fundamental idea of each student understanding their own drawing process. This comes from our hypothesis which is, that if the student can see themselves draw, if they can watch themselves repeat mistakes, then they can learn to change those habits that are hindering their progress.

In simple terms, reflection within education acts as a means of learning from experience. (Dewey 1933) It is a way of thinking, a way of working, which can be applied within aspects of education and can alter the way in which students learn. It is a holistic approach, which incorporates many
different aspects. Reflective learning is an intentional social process ‘...where context and experience are acknowledged, in which learners are active individuals, wholly present, engaging with others, open to challenge’ (Brockbank, 1998: 33).

Donald Schön (1983) the philosopher, emphasised the importance of reflection when trying to bridge the gap between theory and practice. If you can reflect upon your own practice and apply theory to this, then learning is enhanced. Schön used the terminology reflection-in-action and reflection-on-action to describe the two stages reflection can be broken down into. Within the creative world, more specifically when drawing, reflection-in-action is a constant, natural process.

According to conventional wisdom, thinking interferes with doing in two ways. First, artistry being indescribable, reflection on action is doomed to failure; and second reflection-in-action paralyses action. Both arguments are largely, though not entirely, mistaken. They owe their plausibility to the persistence of misleading views about the relation of thought to action. (Schön 1991: 276)

All learners have a preconceived idea of what they will do in a given situation: their espoused theory (Brockbank 1998)², in this case a preconceived idea about how they draw, students believe they are drawing and therefore learning in a certain way, when in fact the reality may be entirely different, decisions made during the drawing process, these moments of reflection-in-action, can be cataloged by the iPad and Brushes app (without interrupting practice), enabling reflection-on-action and therefore a reevaluation of personal espoused theory.

Some quite fascinating instances happened, some that I had assumed might happen and some that were quite unexpected. The first being the enthusiasm to use the iPad, this I had assumed would occur and was I think, in part due to the hype built around the device, but also the hunger of the students in general to engage in technology. The less obvious element of the experience was the noise: there wasn’t any, it was markedly quieter due to the fact drawing on an iPad doesn’t make a sound, drawing on paper does, this might seem minimal in the grand scheme of things, but it led (I think) directly to a deeper level of immersion than is normally present in the life room. After a forty five minute pose one student remarked, ”I could have carried on for ages”, continuing ”I feel much less tired than usual”, pointing to the fact that he normally would have been engaging his whole body, on a much more physical level when drawing at an easel. This is both a positive and a negative, drawing should be a physical activity, and that loss is a slippery slope, the physical helps engage the mental, on the other hand the ability to sustain the concentration for a lengthy pose is helpful when you are learning.

² This ‘espoused theory’ is, according to Brockbank, opposite to our ‘theory-in-use’, which is what we actually do in practice.
I am taking into account this is the first time we have introduced this project, and we may be experiencing the honeymoon period. But it was very encouraging to see the level of sharing that the video playbacks promoted, and to a small degree, this continued with the drawn images. Students engaging with each others work in a more meaningful way than simply ‘that’s good’, turned into, ‘how did you do that?’ This is a link I hadn’t anticipated; that the level of group learning would extend to the ‘drawn’ drawings as well as the iPad drawings. This is something we had wanted to happen but did not try and push. By setting up each week with half the students having iPads and the other half using paper, the idea was to not try and make a big thing of the devices but merely use them as another drawing tool.

From the analysis of qualitative data collected during this research, we were able to see that the students overwhelmingly regarded the device and software as ‘handy, easy, fun, enjoyable, useful, fast, frees you up, comfy, playful, gives you more freedom and a lot less mess’. This would indicate that the user feels less pressure to get things right when using this device in a learning environment. The word ‘freedom’ was cited a lot and the students felt liberated by this ‘freedom’, and were able to share and enjoy the sharing of each other’s process. Which all in all is good learning, but is it drawing?

Often when discussing what drawing is, writers occasionally turn to definitions and use the adage that drawing is both a noun and a verb, a thing and an action (Hill 1966, Hoptman et al 2003). In doing this they are highlighting that one cannot happen without the other, to draw is to act and to produce, and this simultaneous activity is drawing. But here is where technology muddies the water: drawings made by the use of technology (and I mean this in the ‘computer’ sense) are not drawn they are generated. So although they produce a drawing, that drawing has not been drawn. It is verbless. This might seem picky and should be left in the world of semantics but if left to unpick that slightly, we may get a better overview of why it is important.

There are purists on both sides of this argument, some pro technology and some ardent analogue. I like many sit in the middle, I personally don’t like digital drawing; but neither do I think it is a lesser art form. What I am interested in is a way in which we can all use the tools available to us, to better understand the world around us and the world within us. Michael Craig-Martin (1995:10) attributes ‘spontaneity, creative speculation, experimentation, directness, simplicity, abbreviation, expressiveness, immediacy, personal vision, technical diversity, modesty of means,
rawness, fragmentation, discontinuity, unfinishedness, and open-endedness." as characteristics of
drawing. All of these can be attained by digital means, but equally it is true to say that the digital
mark 'represents' these attributes, but does not embody them, because as Craig-Martin also
points out 'What drawings have in common is greater than their differences.' Making the point
that the paintings of Rembrandt represent the values of his time, but the drawings of Rembrandt,
are as relevant to us now as they have ever been. Digital drawings do often represent their time,
they represent the computing power available of that age, drawings made by physical means,
which fit the list of attributes above, are timeless. Petherbridge (2010) argues that describing
what drawing is, can be futile, offering the notion of ‘Drawing as Continuum’, it is in flux, a
constant movement and change. The ways of creating digital drawings will always change and be
at the forefront, but as they do move forward, the drawings made by each progressive stage will
stay in that time, while the physical drawings will continue to move with time, speaking to each
progressive generation, about the now, as well as the past.

**Digital Futures**

So what have we learnt? iPads and the *Brushes* app are a good tool for reflective learning, if the
right learning outcomes are set-up for the student to work from, if good guidance for self-
reflection is put in place. Reflection doesn’t come easily to some and most do need support. We
have learnt that most students will study each other’s videos in order to learn from them and on
the whole, students will embark on a change in methodology with much more keenness than with
traditional means.

The implications of this are complex. Using technology to ‘generate’ and play back your drawings
for you, works exceptionally well for lower achieving students, they know who the better
draughtsman are in their peer groups, and will gravitate to those student’s videos in order to
learn from them, they were actually ‘see’ how others made drawings and try it out for
themselves, instead of looking at finished drawings and believing that they could never reach that
standard. They were able to change their practice with ease, as they could keep erasing and
starting again without fear of it failing, they were able to ‘compete’ with the higher achievers, as
all the work fitted into a equal level of competence, and because they were engaged in critical
reflection, their work benefitted ten fold. On the other side of the coin, the students who were
already high achievers lost something, their beautiful variance and quality of line was lost to a
generic mark, and their sensitive understanding of tone was replaced by a standard gradation. At
the higher end, it was noticeable that the ‘person’ was missing from the drawing; that the drawn
was missing from the ‘drawing.’ It was interesting to note, within their reflective journals, that
these higher-level students all recognised the iPad as a good tool but preferred traditional materials; they recognised something wasn’t quite right but weren’t able to articulate what that was. We could argue that the device is acting as a third party, in a two way relationship between model and artist, that we can never really tell what that person felt about that relationship through their drawing, because it was always channeled through this third party, a third party that does not and cannot understand or feel. ‘The computer does things that people may not be able to do, but at a price. There is something about the struggle and the energy used to make something that is being compromised.’ (Glaser 2008:16)

Technology will make more and more impact on teaching and learning in higher education, as Bradwell (2009) states “the next stage of technological investment must be more strategic. The sector currently lacks a coherent narrative of how institutions will look in the future and the role of technology in the transition to a wider learning and research culture.” This project has proved, that on our programme of study, the iPad and the Brushes app can be part of a healthy drawing practice, both for individuals and group learning, with the caveat that the drawings made on the iPad look good, they are refined, they can be used on various platforms, they move/animate, they stay looking fresh and therefore look appealing – and are appealing – which means, that it looks like students know what they are doing, it looks like staff know what they are doing, it fits the enterprise agendas and the employment agendas, but as I sit here typing this, I can’t help thinking of John Berger’s words on Van Gogh:

He dips his pen into brown ink, watches, and marks the paper. The gesture comes from his hand, his wrist, arm, shoulder, perhaps even the muscles in his neck, yet the strokes he makes on the paper are following currents of energy which are not physically his and which only become visible when he draws them. (Berger 2001:89)
BIBLIOGRAPHY


Online


Title of Research: Investigation into use of iPads for drawing practice and reflection

Nature of Approval Sought (please tick relevant box)

1. (a) PROJECT*: X
2. (b) PROGRAMME*: 

Nature of Approval Sought (please tick relevant box)

1. (a) then please indicate which category:
   - Funded Research Project: X
   - MPhil/PhD Project
   - Other (please specify): X

2. Investigators
   - Dean Owens (Lecturer PU) dean.owens@plymouth.ac.uk
   - Rm407 RLB, Drake Circus
   - Robert Stilwell (Senior Learning Technologist, PU) robert.stilwell@plymouth.ac.uk Room 103, 3 Endsleigh Place

3. Funding Body (if any), Amount of Funding (if any) and Duration of Project/Programme with Dates*:
   - Plymouth University, Teaching Fellowship Award Scheme, £4937.88, 2011/12

4. Aims and Objectives of Research Project/Programme:
   - Innovatively use and assess pedagogic value of “Brushes” app and new iPad technology in an arts context.
   - Aid student learning, understanding and reflection of methods and processes involved in drawing, both for themselves and others, through the use of Apple iPad and the “Brushes” app.
   - Capture student attitudes towards the use of such technology in illustration both before and after the use of iPad on their module.
   - Facilitate a student exhibition of works created using “Brushes” app on the iPad.
   - Through the use of technology encourage positive attitudes towards contemporary mediums
Within the field of illustration leading to improved employability and student experience.

**CONTEXT**

Drawing practice in illustration and other art-based subjects has for many years relied on the final image as a demonstration of learning. The processes behind the work are only unlocked by the artist as a storyteller, explaining their methods as best they understand them. Since the invention of the iPad the ability to construct a "playback" the creation of the work opens up a whole new area for viewing, learning and reflecting on ones own drawing practice in real-time. At this time we are unaware of anything similar being done within institution or sector. "We will continue to develop teaching that demonstrates initiative, and is inspirational and innovative" (T&L Strategy, KT1 Page 6).

"What is also unique is that with the iPad you can actually watch a playback of your drawing. I have never watched myself actually drawing before." Gabbatt (2010)

In the 21st century, digital interfaces increasingly inform our understanding of art, architecture and design. In the past 20 years the spread of computing hardware and software has re-defined the protocols and procedures of the thinking/drawing process and opened up new avenues for time-based drawing. The iPad opens up a distinctly new area in digital drawing and builds a bridge between the simple and effectiveness of pencil and paper, with a highly refined digital platform.

Illustration practice is rapidly changing. Illustration is a dynamic and continually evolving subject and students need to be creative, imaginative, clear thinking, versatile and keep abreast of the current technological developments, firstly to stay in touch with the industry and secondly because they will need to be more entrepreneurial with their practice. "demonstrate commitment to the sustainability agenda, an enterprise based approach and graduate employability in their curricula and teaching We will enable students to develop enterprising attributes such as creativity and resourcefulness." (T&L Strategy, KT1 Page 4)

The ethos of this course is to encourage individual, creative explorations to fully forge their futures in today's fast evolving art and design industries of communication, entertainment, fashion, manufacturing and information. With this in mind we want to encourage students to engage with new technology to help them understand their own drawing practice, to push the subject forward, to aid with sharing of best practice and to better appreciate the use of digital drawing compared to traditional drawing approaches. "To harness and exploit new technologies to enhance the teaching and learning experience" (T&L Strategy, KT9 Page 10).

**Brief Description of Research Methods and Procedures:**

We will undertake a paper based questionnaire and confidence log to capture BA Illustration students' attitudes towards technology and its role as an artistic medium.

IPads will then be given to students (10 shared between 2 groups of 20 students) for them to use a pre-installed illustration App called Brushes (http://www.brushesapp.com/). Through the module duration the students will create a series of drawings on the iPad from observation within a controlled environment, using the skills they have developed during the previous module (drawing practice) and applying this knowledge using this new technology.

The use of playback in the "Brushes" App will allow students to share and discuss their drawing and learning process in order to help cement their own learning. The students will be able to create a video of the entire creation process (by using the Brushes Viewer software) which can then be used in a number of ways, for example reflection, exhibition, portfolio or assessment purposes. After undertaking the pilot a follow up questionnaire and repeat of confidence log will be carried out.

Following an exhibition of works created, student reactions to module experiences will be captured through a focus group. If the opportunity arises we would also aim to create short videos of the project and technologies involved which could be used for dissemination purposes.

Specify subject populations and recruitment method. Please indicate also any ethically...
**Sensitive aspects of the methods. Continue on attached sheets if required.**

**Ethical Protocol:**
Please indicate how you will ensure this research conforms with each clause of the University of Plymouth’s Principles for Research Involving Human Participants. Please attach a statement which addresses each of the ethical principles set out below.

<table>
<thead>
<tr>
<th>Informed Consent:</th>
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<tr>
<td>All participants will be informed of the purpose of the proposed project, what their role in it will be and how the data will be used (e.g. dissemination, participation). Participation will be voluntary and will be fully informed as possible and no group will be disadvantaged by being excluded from consideration.</td>
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<th>Openness and Honesty:</th>
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<tr>
<td>The research team will be open and honest with participants at all stages of this project. There is no deception planned or anticipated as a consequence of this research. Note that deception is permissible only where it can be shown that all three conditions specified in Section 2 of the University of Plymouth’s Ethical Principles have been made in full. Proposers are required to provide a detailed justification and to supply the names of two independent assessors whom the Sub-Committee can approach for advice.</td>
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<th>Right to Withdraw:</th>
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<td>Participants have the right to withdraw during the project (i.e. prior to dissemination), to decline to answer any question or to require that information given should not be used in any way. The data obtained from any participant who withdraws from the study will be removed and destroyed.</td>
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<th>Protection From Harm:</th>
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<td>It is not anticipated that participation in this research could cause any harm.</td>
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<th>Debriefing:</th>
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<td>Participants in this project will be provided with opportunities to discuss their experiences. They will have access to reports that result from this study.</td>
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<th>Confidentiality:</th>
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<td>It is intended that no specific person or persons will be named during any dissemination from this project. The work (including artwork, playback videos and data) produced will be used but no specific contribution from any of the participants will be attributed to them unless appropriate and without their prior consent.</td>
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<th>Professional Bodies Whose Ethical Policies Apply to this Research:</th>
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<td>Not applicable</td>
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Applicants MAY choose to write “not applicable” in the “Relevant Professional Bodies” section of the Ethical Application Form. However, if based on the information written in other sections of the form, FREC considers a particular professional code to be of relevance, then the Committee may make its consultation and adherence a condition of acceptance. The Committee strongly recommends that prior to application, wherever possible, applicants consult an appropriate professional code of ethics regardless of whether or not they are members of that body (for example, Social Research Association: http://www.theresa.org.uk/ethical.htm, Market Research Society: http://www.mrs.org.uk/standards/codeconduct.htm, British Sociological Association: http://www.britsoc.co.uk/equality/).
Declaration:

To the best of our knowledge and belief, this research conforms to the ethical principles laid down by the University of Plymouth and by the professional body specified in 6 (g).

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<th>Name</th>
<th>E-mail (s)</th>
<th>Date</th>
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<tbody>
<tr>
<td>Principal Investigator:</td>
<td>D Owens <a href="mailto:Dean.owens@plymouth.ac.uk">Dean.owens@plymouth.ac.uk</a></td>
<td>Oct.11</td>
</tr>
<tr>
<td>Other Staff Investigators:</td>
<td>R Stilwell <a href="mailto:Robert.stilwell@plymouth.ac.uk">Robert.stilwell@plymouth.ac.uk</a></td>
<td>Oct.11</td>
</tr>
<tr>
<td>Director of Studies (only where Principal Investigator is a postgraduate student):</td>
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You will be notified by the Research Ethics Committee once your application is approved. This process normally takes around 3-4 weeks.

Please Answer Either YES or NO to ALL Questions Below. If you answer YES, please provide further details.

Do You Plan To Do:

- Research involving vulnerable groups – for example, children and young people, those with a learning disability or cognitive impairment, or individuals in a dependent or unequal relationship
  Answer: no

- Research involving sensitive topics – for example participants’ sexual behaviour, their illegal or political behaviour, their experience of violence, their abuse or exploitation, their mental health, or their gender or ethnic status
  Answer: no

- Research involving groups where permission of a gatekeeper is normally required for initial access to members – for example, ethnic or cultural groups, native peoples or indigenous communities
  Answer: no

- Research involving deception or which is conducted without participants’ full and informed consent at the time the study is carried out
  Answer: no

- Research involving access to records of personal or confidential information, including genetic or other biological information, concerning identifiable individuals
  Answer: no

- Research which would induce psychological stress, anxiety or humiliation or cause more than minimal pain
  Answer: no

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![University of Plymouth Logo]
Research involving intrusive interventions – for example, the administration of drugs or other substances, vigorous physical exercise, or techniques such as hypnotherapy. Participants would not encounter such interventions, which may cause them to reveal information which causes concern, in the course of their everyday life.

Hi Dean,
Thanks for this.
Okay, I think that ethical approval can be given as long as you do not see the students' video reflection on the project until after you have assessed them (I don't remember if somebody else was actually going to do this filming - it may be necessary if you have time constraints).

My concern is simply that if a student is really scathing about the project or the process, it would put you in a difficult position as the tutor assessing the work they produced who also set it up. It also would compromise the veracity of the students' response if they knew you were going to assess their work. Seeing as this is an optional part of the research and won't affect the whole research cohort, you should be able to work within this condition.

Best wishes,
Roberta Mock
Professor of Performance Studies
Director, Arts & Humanities Doctoral Training Centre
Plymouth University
email: roberta.mock@plymouth.ac.uk
Appendix 4

All data collected and analysed is available to download from the following links:

Student questionnaire results

Interview 1
Interview 2
Interview 3
Interview 4