

CREATING A COMMUNITY OF ASSESSMENT PRACTICE FOR GRAPHIC DESIGN THROUGH THE USE OF E-PORTFOLIOS

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Abstract

An area that currently challenges and will continue to challenge design education in the future is that of assessment. Current research in design assessment has identified approaches such as a holistic assessment, designed to evaluate product, person and process (de le Harpe et al., 2009) and authentic assessment both of which move towards a more learner-centered and process concentrated approach. With these changes come new challenges for design educators to substantiate and validate what they do when it comes to the assessment of student work.

The Graphic Design Degree offered by the Midrand Graduate Institute is presented at ten sites in South Africa and aims to maintain assessment standards, be efficient as well as cost effective. External moderation for all practical modules takes place twice a year at each campus. Student portfolios consist of bulky two and three dimensional work, visual diaries, large digital files for modules such as animation and the cost, fragility and logistics prevent the centralised marking and moderation of the work.

Electronic or digital portfolios (e-portfolios) have been used extensively in other fields, in particular to provide evidence of learning and professional development in the field of teaching and education, they could provide the department with not only a cost effective system for portfolio assessment, but with a tool to be used over the next twenty years that will enhance other aspects of design education. In an on-going action research project, this paper looks at initial research on how the assessment practice of the institution could be enhanced through the use of e-portfolios.

Key Words: *e-portfolio, assessment, graphic design, holistic assessment, learning*

Introduction

Within an overall departmental action research project this paper looks at the aspect of learning and assessment as related to the context, motivation and considerations for a proposed switch from a traditional hardcopy Graphic Design student portfolio to an e-portfolio. An e-portfolio can sometimes be referred to as a digital portfolio, electronic portfolio or webfolio. The initial impetus for this idea was a call to address the administrative complexities raised by the internal and external moderation of student portfolios on ten separate campuses. Lecturers in the Graphic Design Department at the Midrand Graduate Institute (MGI) chose to take a broader view of the problem and possible solution, by considering the following aspects: student perception, learning, technology and assessment. Ultimately the total project will gather the data needed to make a valid decision for changing to an e-portfolio system or not. This paper considers the area of this author's responsibility which is assessment, although learning as a product/aim of assessment is included.

This is a long term project, especially as note has been taken of existing research covering both positive and negative aspects, case studies as well as the complexity of implementing e-portfolios in educational contexts. We acknowledge that a cautious, yet thorough investigation must be completed before any decision, let alone implementation can take place. In keeping with an action research approach, the project involves "identifying a problematic issue, imagining a possible solution, trying it out, evaluating it (did it work?), and changing practice in the light of the evaluation" (McNiff 2002: 7). Ideally the department would like to make use of e-portfolios for more than assessment and other goals include enhancing student learning, gathering feedback from a wider community of practice, keeping parents and sponsors informed of progress and providing students with a career enhancing platform. No doubt more applications will be identified as the research progresses. "Yet, if e-portfolios

are only assessment tools, without value or meaning to the students who create them, they will lose vitality and become an exercise in discipline and surveillance” (Clarke and Eynon 2009:23).

Learning and assessment requirements in Graphic Design

Identifying what Graphic Design students should know and be able to do is guided by the expertise of the lecturers, the expectations of industry, government regulations, competition and good educational practice. Highlighting the most appropriate software, design and technical skills, and the skills needed to be a proficient design practitioner are relatively straightforward if the various role players are consulted. Shreeve, Wareing and Drew (2008:9) indicate that along with the skills mentioned above the “expectation that students will become independent, self-analytical, critical thinkers informs the entire period in higher education from the start of their course”. Identifying, teaching, and assessing thinking skills that will benefit students and equip lifelong learners are not an easy or straightforward task for most educators.

In keeping with current research in the field of art and design education, the department is gradually moving towards an approach that encompasses the teaching, learning and assessment of “process, person and product” (De le Harpe, Petersen, Frankham, Zehner, Neale, Musgrave and McDermott 2009:39). The three areas are in reality difficult to separate, as an assignment or brief may cover outcomes that require the student to evidence aspects in all three areas. However *process* gives us the opportunity to encourage an action learning approach where students identify problems, research, plan, document, reflect, generate a solution/product and judge its success. The inclusion of reflection is in line with modern approaches to learning which “give priority to the acquisition of deliberately processed knowledge, especially self-knowledge, as a pre-requisite for the self-regulation of learning and creativity” (Cunliffe 2007:7). This approach encourages students to consider more than arriving intuitively at what they consider an appropriate solution for a specific brief, as Heller (2006:12) states students are expected to provide “a well-articulated reason for action” and this can be in written form and/or in the form of an in class presentation.

Current assessment practice

The Graphic Design degree is offered at ten campuses throughout South Africa. The structure, curriculum, courseware and assessments are designed by the lecturers on the main campus. The same assessment structures and processes are followed on all campuses with teams of lecturers marking each brief and an internal and external moderation of portfolios held twice a year.

It is common practice for art and design education to make use of the student portfolio as evidence of learning. Portfolios are used internationally at both school level and in higher education (Blaikie, Schönau and Steers 2004:302-314). These portfolios can take many physical forms but the aim is that “all kinds of evidence can be brought together in those portfolios that, in combination, give the possibility to draw valid conclusions about competence” (Van Tartwijk & Driesen 2009:792). The structure and system currently used at the institution for the assessment of practical modules follows a fairly traditional approach. This includes the setting of authentic assessment opportunities in the form of briefs which students complete during the year. The lecturer provides formative assessment and feedback in a studio environment and judgement and feedback by lecturer, student and peers occurs in critique (crit) sessions.

In line with outcomes based education (OBE) and to guide students, lecturers and moderators, end points and outcomes are defined for each module as are levels of competency and these are indicated in the courseware. The final assessment consists of a predominantly hardcopy (except for multimedia) portfolio that is assessed by a panel of internal and external moderators to arrive at a final mark. It relies heavily on the traditional connoisseurship approach, where the lecturer and the moderator are considered experienced experts in the field with a high degree of perception and sensitivity (Hickman, 2007:81). They view the final artefacts and arrive at an unbiased value judgement of the work. To many this approach is recognised as an extremely comprehensive and thorough assessment process “our field clearly has highly developed [assessment] evaluation systems which function at all sorts of levels. These have been developed to be consistent with the nature of the field and its specializations” (NASAD 2009:9).

There is some debate as to whether judging only the final artefacts can provide adequate assessment of the person and the process. Lindströms' (2007:88-93) research indicates that it is possible to assess both product and process in the final artefact if the criteria are clearly defined and scales used to indicate competence. Others such as De le Harpe et al. (2009:37-51), Ellmers (2006:1-10) and Ehmann (2005:107-13) describe how *process* should be described and emphasised above the final artefact, reflection should be encouraged and self and peer assessment should be included at various stages of the design process. "Findings suggest that student learning was deepened and shifted from a focus on the final design artefact or product to the process of learning, through a cycle of continuous reflection" (De le Harpe *et al.* 2009:39).

Evidencing process within current assessment practice

In an aim to evidence the process that students follow to arrive at a final artefact, students are required to record their research, reflect on their thinking and defend their decision making and evaluate the final product. Each student records the process in a workbook or visual diary, or a number of visual diaries. These are included with the final artefacts for all marking opportunities. The visual diaries range in effectiveness from student to student, some are rich in information, contain valid reflection by the student, offer evidence of extensive and appropriate research and are, in their own right exceptional designs products.

Unfortunately not all students see the visual diary as an opportunity to enrich their learning and lecturers encounter many of the common indicators that students do not see the relevance of the exercise and are not benefitting from it. Some students cut and paste source information and images printed off the internet, with little consideration to plagiarism and copyright, many resist reflection and writing adhering to the rather dated concept that "graphic designers are non-readers and -writers" (Bennett 2006:16), they are secretive about their concepts and research and arrange the material in a very poorly designed way.

To offer some support for the students lack of interest in the exercise of documenting their process and compiling the visual diaries by hand there are a number of relevant negative features regarding the current system. It is repetitious (source, copy, print, cut and paste), inflexible (mistakes are not easily rectified), the diaries are not portable (bulky, heavy and delicate), not easy to view (diaries become overfull and paging through takes time), expensive (printing in order to paste) and not in keeping with the students electronic and connected world (Facebook, blogs, sms, mms, Twitter). The diaries plus hardcopy portfolios are limited in terms of what one can include (no video, animation), there is no way to link different modules, it is not an effective format for job seeking (art directors often do not have time to page through hardcopy portfolios) and it allows for only limited exposure to the design community (available to lecturers, peers, external moderators only at a one person at a time basis). Certainly in terms of equipping students with the skills needed to reflect effectively, the department has to question whether enough is being done to assist with "how reflection is developed, taught, and modeled as a learning behaviour" (Rickards, Diez, Ehley, Guilbault, Loacker, Hart, Reisetter & Smith 2008:34).

On a practical level to gather the portfolios from all campuses together for an external moderator is not possible. Access to good and qualified moderators in remote areas is limited. From the perspective of a private education organisation that is accountable to its shareholders as well as to students and parents, funding external moderators on ten campuses, for all three levels of study, twice a year becomes a significant financial burden.

E-portfolios

There are many definitions of e-portfolios but for the purpose of this paper the emphasis is on a portfolio that would be both digital and internet based and could be used initially for assessment. "An electronic portfolio uses electronic technologies, allowing the portfolio developer to collect and organize portfolio artifacts in many media types (audio, video, graphics, text)" (Barrett 2001). Barrett (2001) continues to identify an e-portfolio as "a container that holds examples of student or teacher work (the "artifacts") and reflections on that work that transforms the artifacts into "evidence" of achievement. Many of those artifacts could be the results of performance assessments with associated evaluations and reflections".

Portfolios and e-portfolios have gained popularity in areas where there has been a move away from standardised testing including teacher education, medicine and nursing (Butler 2006:18). This seems obvious as in art, design and architecture portfolios have been used for many years because of their ability to present non-standard examples of learning. Internationally e-portfolios are still considered something new and different even though as Clarke and Eynon (2009:18) point out “across all higher education sectors, the study shows, the use of e-portfolios has tripled since 2003”. By comparison to the main areas identified by Butler (2006:9), a small percentage of e-portfolio use falls into the fields of “art and design, dentistry, psychology, engineering and information systems”.

Portfolios have been used where standardised testing is seen to be undesirable or inadequate and lend themselves particularly to “alternative assessment, authentic assessment, or performance-based assessment” (Barrett 2001). For instance in medical education the lower levels of clinical competence made up of *Knows, Knows How and Shows* as described by Miller in Van Tartwijk & Driesen (2009:791) can be assessed using written tests and simulations, however portfolios are used for the highest level *Does* which “is concerned with independent performance within the complex environment of day-to-day practice” (Van Tartwijk & Driesen 2009:791).

In addition to serving as an assessment tool e-portfolios can serve single or multiple purposes which will not be discussed in detail, but deserve a mention. Love and Cooper (2004:65-81) identify the following purposes: a platform for checking for plagiarism, automation of certain administrative processes and making others such as moderation more equitable, improving student learning, involving students in authentic learning situations and improving students’ computer based skills, a transparent platform for quality assurance. In terms of career development they provide students with a platform to showcase their work along with their planning, research and reflection in their own voice. The e-portfolio can then be added to as their career develops providing a platform for, and evidence of, lifelong learning. E-portfolios can act as effective feedback platforms with lecturers, peers and industry partners contributing to learning, an example of this is given in Taylor and McCormacks’ (2007:1-7) article *ePortfolios and collaborative dialogues between professionals and graphic design students enhance educational outcomes*.

Advantages of e-portfolios

Considering the drawbacks of the hardcopy portfolios especially for the remote campuses an e-portfolio system could offer significant advantages to the students, lecturers, external moderators and the institution. A web based portfolio would allow for assessment by an external subject expert based anywhere that allows internet access. Links can be provided to supporting assessment documents such as outlines, standards and rubrics which can all be housed in an easily accessible form for moderators to move backwards and forwards from and to. Marks can be filled in online. All campuses would have the same external moderator and parity could be ensured. Costs in terms of transporting moderators to remote campuses or employing moderators to assess very small groups would be eliminated.

The e-portfolio is recognised as “charting the development of students’ thinking over their course of study” (Butler 2006:2) and as such is aligned with the departments’ approach of assessment of both person and process and is ideally suited for authentic assessment opportunities (Ó Súilleabháin 2004:1-11). Students are easily able to link evidence in various modules with their experiences and so have the potential to assist with providing a more holistic picture of their learning. The approach taken to assessment of the e-portfolios closely follows the current assessment practice with the e-portfolio providing an environment for formative assessment and feedback while students work on briefs and then the final portfolio is used for summative assessment.

In the article *The Information Age Mindset Changes in Students and Implications for Higher Education* by Jason Frand (2000:15-24) he identifies ten new mindsets in students. Some of these include that students can with the aid of technology do things without knowledge or understanding, they multitask most of the time, they would rather type than write by hand, they must stay connected, they do not tolerate delays well and they do not see “the division between the owner, creator and user of information” (Frand 2000:22). All these attributes indicate that we should be looking carefully at how we educate and assess these students and what tools we should be using to do so.

Bass and Eynon (2009:1-29) identify through the *Visible Knowledge Project* (VKP) which gathers research from lecturers who use emergent Web 2.0 tools in their teaching, that in fact student learning

has changed and they have identified the types of learning that are evidenced when these technological tools are used. They identify them as “adaptive, embodied and socially situated” (Bass & Eynon, 2009:10). These enable students to adapt more easily to new information and changes and to be innovative. Students can pay more attention to intermediate processes (*process*) and evidence this more easily. Lastly they give students “a sense of audience and public accountability” (Bass & Eynon, 2009:11). These aspects then reflect on their development as person and design practitioner. All of these types of learning would certainly benefit any Graphic Design student and graduate and when related to the previously mentioned findings of Frand (2000:12-24) make use of students comfort and familiarity with technology to enhance assessment and learning. The fact that these technologies lend themselves to evidencing process is of particular benefit in terms of the departments learning and assessment objectives.

Pilot projects

A number of pilot projects have been planned which look initially at gathering information relating to students willingness to switch to E-portfolios, evaluating the standard of the E-portfolios produced by students and identifying any potential hurdles. These make use of a combination of questionnaires, interviews and reflection to gather input from both staff and students. As indicated in the introduction, the research into switching to the e-portfolio is still in the beginning stages. Initially the concept was to find a way to assess all student work from the various campuses at a central point, to that end and at the most basic level student portfolios could be converted from their existing hardcopy format to digital by photographing the work and burning these and digitally designed files to CD or DVD. A small project related to this approach was launched at the end of 2009, in order to evaluate three aspects. The first being whether the campuses would be able to provide adequate digital portfolios for assessment, secondly whether the current external moderators were willing to assess digital portfolios and thirdly whether a system could be implemented to manage the process. A small group of external moderators were asked if they would be prepared to assess digital portfolios burnt to CD and they all indicated that they would be willing to do so.

After receiving criteria relating to naming, file formats and file sizes lecturers on two of the remote campuses photographed student portfolio work in one specific first year module. These files were e-mailed along with mark sheets to the Midrand campus. At this point the files and mark sheets were combined and sent on a CD along with a feedback form to an external moderator. The external moderators' marks closely matched the internal and external moderation already done on campus. Generally the process worked effectively and moderator felt that he could adequately assess the work received. The moderator pointed out that he could spend more time with the work, as often when moderating on site there is pressure to finish the process within a certain time frame. There were certain practical issues that arose, such as the quality of photographs and delays in delivery. The time demands made of the lecturers and the sheer volume of work that would be generated if this approach would be used for all modules on all campuses for all students.

Although the first project offered some solutions relating to portfolio assessment on multiple campuses, the system cannot provide the benefits that an e-portfolio can. In order to reap the benefits of using the e-portfolio for more than just assessment lecturers would have to design each brief and module with this in mind. Both staff and students would have to work in a different way to what they are used to, especially in terms of supporting and encouraging reflection. Reardon and Hartley echo this by stating that “an e-portfolio program includes a technology-based intervention, varied staff with a wide range of skills, a plan for marketing the e-portfolio to students and other stakeholders, computer and technology support, counselling and teaching personnel to help students reflect on learning experiences and material for inclusion in the portfolio, and a plan for evaluating the e-portfolio program” (Reardon & Hartley 2007:84).

A second pilot project, in which students were given the option to use a blog or a hardcopy visual diary, was launched at the beginning of 2010. Students registered for History of Graphic Design 3 on the main campus and History of Graphic Design 2 on the Pretoria campus participated in the project. The assignment was designed in such a way that the students could submit hardcopy or blogs and the outcomes, assessment criteria and marking rubric could be used for both platforms.

Traditionally students collect and evaluate written as well as visual material for these assignments and are expected to present their research, ideas, reflections and comments in an A3 visual diary. Sources

include newspapers, books, magazines, blogs and social networking sites which are used to gather information and to elicit comment. The diary is submitted at various deadlines during the year. Although the assignment falls within a theory module, the working method that students are required to follow (plan, research, analyse, reflect, document and present) is very similar to what they are expected to do in practical modules.

Through a questionnaire it was established that a high proportion of students had used blogs before and felt comfortable with their level of expertise in that area. "In an age of multimedia self-authoring, student interest in creating rich digital self-portraits has grown exponentially. As evidenced by the popularity of social networking sites such as sites like Twitter and Facebook, a digital portfolio for student learning speaks the language of today's student body, made up overwhelmingly of millennials who came of age using social networking sites" (Clarke & Eynon 2009:18). In general students were positive about changing to the blog and indicated that they saw certain benefits, examples given by students included "gain web based skills and communication with design community," "interact with the design community at large" and "making valid commentary and expressing ideas clearly". The majority of students' negative comments regarding the blog related to limited internet access on campus and at home, and the slowness of the internet connection.

The pilot project has had rather limited success and the evaluation of the standard of student work has been hampered primarily by technical issues. However on a superficial level the standard of the work appears to be equal to the hardcopy diaries. For the assignment students made use of freeware and sites such as Blogger and Wordpress. On the Pretoria campus all of the six students chose the blog option. On the main campus only three of the nine students chose the blog option. As the lecturer had not been able to access the student blogs because of institutional internet policy and a lack of familiarity with the technology, there had been no feedback and follow up with students. Training for students and lecturers on all campuses will be an essential component of embarking on an e-portfolio strategy. There has been one instance of a blog being hacked which highlights issues of security. Internet policies on campus have not been encouraging of this type of approach, with student and staff access to blogs being blocked and this has hampered progress with this pilot project. A third pilot project is planned for the second semester of 2010 involving the third year Web Design students with note taken of the problems already identified.

Conclusion

E-portfolios lend themselves to the collection of diverse types of evidence, keeping record of learning over time, providing easy links to a variety of sources, they occupy cyber rather than physical space and are seen by students to be part of their technological world. This makes them an obvious candidate to replace hardcopy portfolios. The possibility that e-portfolios can be used to enhance learning, improve student skills and employability and assist with administration are some of the additional advantages illustrated in existing research.

The two pilot projects and survey launched on campus indicate that students are generally positive about using a more technologically based tool to evidence their working and thinking processes. The accurate digitising of all handmade pieces will have to be considered in terms of photographic expertise, time spent and the management a considerable amount of data. The pilot projects have highlighted that additional training is required for both staff and students in order to improve technical skills. Lecturers when designing learning and assessment opportunities will have to consider the new platform and tools available to them as well as how this generation of student learns. If students are required to reflect they must be given the skills to do so. Certain experiences during the pilot projects have already raised concerns regarding internet access, organisational policies and security.

The viability of using e-portfolios to replace hardcopy portfolios in this particular organisation has as yet not fully been established or refuted. The long terms research project will continue to investigate all relevant aspects before final conclusions can be made. The pilot projects and the existing examples of e-portfolios used in other areas of education, strongly indicate the potential of e-portfolios to be used to enhance the assessment practice for the Graphic Design course offered on multiple campuses.

References

- Barrett, H.C. 2001. Electronic Portfolios. In Kovalchick, A. & Dawson, K. *Educational Technology; An Encyclopedia*. ABC-CLIO. <http://electronicportfolios.com/portfolios/encyclopediaentry.htm> [19 June 2011].
- Barrett, H. 2011. *electronicportfolios.org*.<http://electronicportfolios.com/> [8 July 2011].
- Bass, R. & Eynon, B. 2009. *Capturing the Visible Evidence of Invisible Learning* Part III. Academic Commons <http://www.academiccommons.org/commons/essay/capturing-visible-evidence-invisible-learning-3> [1 July 2011].
- Bennett, A. 2006. The Rise of Research in Graphic Design. In A. Bennett, ed. *Design Studies Theory and Research in Graphic Design*. New York: Princeton:14-23.
- Blaikie, F., Schönau, D. & Steers, J. 2004. Preparing for Portfolio Assessment in Art and Design: A Study of the Opinions and Experiences of Exiting Secondary School Students in Canada, England and Secondary School Students in The Netherlands. *Journal of Art and Design Education*, 23 (3):302-15.
- Butler, P. 2006. A Review Of The Literature On Portfolios and Electronic Portfolios. *eCDF ePortfolio Project Steering Committee*. Creative Commons:1-23.<http://akoaootearoa.ac.nz/download/ng/file/group-996/n2620-eportfolio-research-report.pdf> [29 May 2011].
- Clarke, J.E. & Eynon, B. 2009. E-portfolios at 2.0—Surveying the Field. *Peer Review: Association of American Colleges and Universities*. Winter:18-23.
- Cunliffe, L. 2007. Using Assessment in Knowledge-Rich Forms of Learning and Creativity to Nurture Self-Regulated Strategic Intelligence. In *Creativity or Conformity? Building Cultures of Creativity in Higher Education*. Cardiff, 2007. University of Wales Institute.
- de le Harpe, B., Petersen, J. F., Frankham, N., Zehener, R., Neale, D., Musgrave E. & McDermot. R., 2009. Assessment Focus in Studio: What is Most Prominent in Architecture, Art and Design. *International Journal of Art and Design Education* 28 (1):37-51.
- Ehmann, D. 2005. Using Assessment to Engage Graphic Design Students in their Learning Experience. *2005 Evaluations and Assessment Conference*. Sydney: 107-113. <http://www.iml.uts.edu.au/EAC2005/papers/Ehmann2005.pdf> [19 September 2010].
- Ellmers, G., 2006. Reflection and Graphic Design Pedagogy: Developing a Reflective Framework to Enhance Developing a Reflective Framework to Enhance. In Baker, S. & Fereday, S., eds. *ACUADS 2006 Conference Thinking the Future: Art, Design and Creativity*. Melbourne, 2006. Victorian College of the Arts:1-10. <http://ro.uow.edu.au/cgi/viewcontent.cgi?article=1009&context=creartpapers> [6 November 2010].
- Frاند, J.L. 2000. The Information Age Mindset Changes in Students and Implications for Higher Education. *Educause*, 35 (5):15-24.
- Heller, S. 2006. Better Skills through Better Research. In A. Bennett, ed. *Design Studies Theory and Research in Graphic Design*. New York: Princeton Architectural Press:10-13.
- Hickman, R. 2007. (In defence of) Whippet-Fancying and Other Vices: Re-evaluating Assessment in Art and Design. In T. Rayment, ed. *The Problem of Assessment in Art and Design*. Chicago: Intellect: 77-88.
- Lindström, L. 2007. Understanding the Creative Mind Portfolio Assessment in the visual Arts. In *The 13th International Conference on Thinking Norrköping*. Sweden, 2007. http://www.ep.liu.se/ecp_article/index.en.aspx?issue=021;vol=1;article=012. [21 September 2010].
- Love, T. & Cooper, T. 2004. Designing Online Information Systems for Portfolio-Based Assessment: Design Criteria and Heuristics. *Journal of Information Technology Education*, 3:65-81.
- McNiff, J. 2002. Action research for professional development Concise advice for new action researchers. 3rd ed.
- NASAD. 2009. *Assessment on Our Own Terms*. Policy Brief, Reston, Virginia: National Association of Schools of Art and Design.: 1-17. <http://nasad.arts-accredit.org/index.jsp?page=Assessment and Policy Studies> [20 July 2010].

Ó Súilleabháin, G. 2004. *The E-portfolio: a Tool for Authentic Assessment*. Cork: Cork Institution of Technology Cork Institution of Technology.

Reardon, R.C. & Hartley, S.L. 2007. Program Evaluation of e-Portfolios. *Willey Science*, 119:83-97. <http://www.interscience.wiley.com>. [29 May 2011].

Rickards, W.H., Diez, E.M., Ehley, L., Guilbault, L.F., Loacker, G., Hart, J.R., and Smith, P.C. 2008. Learning, Reflection, and Electronic Portfolios: Stepping Toward and Assessment Practice. *Journal of General Eductaion*, 57(1):32-50.

Shreeve, A., Wareing, S. & Drew, L. 2008. Key Aspects of Teaching and Learning in the Visual Arts. In H. Fry, S. Ketteridge & S. Marshall, eds. *A Handbook for Learning and Teaching in Higher Education*. 3rd ed. London: Kogan:1-34.

Taylor, M. J. & McCormack, C. 2007. ePortfolios and collaborative dialogues between professionals and graphic design students enhance educational outcomes. In *Connected 2007 International Conference On Design Education*. Sydney, Australia, 2007. University of New South Wales.

Van Tartwijk, J. & Driesen, E.W., 2009. Portfolios for Assessment and Learning AMEE Guide no.45. *Medical Teacher*, 31:790-801.

Short Biography

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