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**DIGITAL PORTFOLIOS AND FEEDBACK PRACTICES IN A
TRADITIONAL UNIVERSITY COURSE****ABSTRACT**

The paper describes and discusses portfolio practices in the History Department at the University of Bergen, Norway, using a model of portfolio processes based on experiences from other disciplines. The primary aim of changing the assessment was to improve student learning in general and students' competence in writing historical argumentative texts in particular. The digital portfolio consisted of multiple texts in one genre, the argumentative essay, student's comments to peers and their entries in asynchronous discussions. Digitalization was seen as an absolute prerequisite for administering the portfolio system. The study showed that the reduction in the course modules from 30 to 15 credits led to a change in the portfolio model with less self-assessment. Our findings indicate that learning was related to the systematic use of peer and teacher feedback facilitated by the digital portfolio process. The transparency afforded by digitalization was seen as a major learning asset both by students and teachers, but did not in itself ensure high quality feedback, nor that students actually used the feedback for revision. Suggested improvements include training students in response and revision skills, genre knowledge and the use of explicit assessment criteria, none of which are common in the teaching-learning culture of traditional academic disciplines, nor are they directly related to the use of ICT.

Introduction

This paper is based on an empirical study of a development project in assessment at the History Department at the University of Bergen, Norway. What makes this discipline particularly interesting is that history is a representative of the classic academic subjects with a longstanding tradition of teaching and assessment. Portfolio assessment represents a fundamentally different way of assessment compared to traditional 'sit down exams', and digitalization adds yet another new element. This form of alternative assessment was first used in art education¹ and for assessing writing (Belanoff & Dickson 1991, Yancey & Weiser 1997). Portfolio assessment has become especially widespread in professional higher education where they are seen as a way to bridge the theory-practice gap. When innovations are introduced in traditional academic settings, research on educational reforms has shown that changes are often superficial and that the strength of the old traditions is often underestimated. Bearing this in mind and based on socio-cultural theories of learning and assessment, *the aim of this study is to investigate how portfolio assessment is implemented in a traditional academic department, the role of digitalization and possible areas of improvement.* The study is primarily based on semi-structured interviews with teachers and students and on document analysis of student papers as well as teacher and peer feedback.

Defining a portfolio is no easy task as it depends on the purpose of the portfolio as well as the context where it is used. Zeichner & Wray (2000) in his overview of portfolios in teacher education distinguished between the 'learning portfolio', the 'credential portfolio', and the 'employment portfolio'; the latter being a showcase portfolio representing students'

¹ For instance the Arts Propel Project, inspired by Howard Gardner and initiated by Harvard Graduate School.

best work and used when students applied for jobs (pp 615-616). The portfolio type we discuss in this article does not correspond to any of these categories. Portfolios used in university courses in the Humanities or Social Sciences can most often be labelled '*discipline based learning and assessment portfolios*'. In order to establish what are typical aspects of portfolios, we will turn to one of the most commonly used definitions is by Paulson, Paulson & Meyer (1991):

A portfolio is a purposeful collection of student work that exhibits the student's efforts, progress, or achievements in one or more areas. The collection must include student participation in selecting contents, the criteria for judging merit, and evidence of the student's self reflection (p. 60).

A digital portfolio is in addition "stored and organized digitally and utilizes digital tools in the learning process and in the documentation" (Otnes, 2002).

In international literature we find a great variety of portfolio models (Black et. al. 1994, Brown et al. 1997, Yancey & Weiser 1997), but common to most of them is "collection, reflection and selection", as well as the postponement of summative assessment (Hamp-Lyons & Condon 2000, Klenowski 2002). This means that the students collect documentation of their work in a working portfolio, reflect on both their learning process and on their work and make a selection for the presentation portfolio which will be summatively assessed. When describing portfolios in history, we will use as a point of departure a model (fig. 2, p 7) based on the definition presented above.

Research questions

The overarching research question is: *What are the characteristics of digital portfolio assessment in history and what are the learning benefits and the unused potentials?* More specific questions are:

1. What contextual factors have influenced the assessment format?
2. What are the general characteristics of the portfolio model developed at the History Department and how does it differ from a 'collection-reflection-selection model'?
3. What characterises the digital aspects and what are the benefits and the challenges?
4. How is the learning potential in digital and interactive feedback utilized and what can be improved?

Theory: Socio-cultural perspectives on learning and assessment

From socio-cultural perspectives knowledge and learning are viewed as situated, social, distributed and mediated, dependent on language and dependent on participation in communities of practice (Vygotsky 1986, Lave & Wenger 1991, Wertsch 1998, Koschman 1999, Säljö 2000, Dysthe 2001). This represented a major shift from the views of learning that have been dominant in higher education, especially universities, where transmission of knowledge has been center stage. Socio-cultural perspectives govern our understanding of assessment as closely integrated in the learning processes instead of as a separate event after learning has taken place (Gipps 1994, Greeno, Collins & Resnick 1996).

Portfolios as mediating artifacts

The cultural historical school of Vygotsky, Luria and Leont'ev underlined the fact that human beings develop and use physical, technical and semiotic tools. Tools are intellectual and practical resources which we have access to and which we use to understand the world around us and to act on it. Portfolios are mediating cultural tools, and the physical and cultural aspects of them are important, as well as the rules and routines and processes the portfolios are surrounded by and embedded in. Traditional assessment focuses on products, while portfolios make it possible to document processes as well. Portfolios mediate learning, and

digitalization of portfolios provides an interesting example of how learning processes change when the mediating tool changes. The first step is often to use digital portfolios just as a different medium of storage and administration, and the next one is to ask what new learning potential digitalization can offer (Otnes 2002).

Learning as situated, social and distributed

The term 'social' is used in at least two meanings when related to learning (Wertsch 1998); one emphasizes the historical and cultural *context* which the learner is situated in, the other the relational and interactional aspect. Both are relevant on to portfolio processes. Important aspects of the cultural contexts in higher education are the one hand related to institutional traditions in general and disciplinary differences on the other. We will therefore elaborate both the Norwegian university setting and history at the University of Bergen.

Using portfolios means that the development and knowledge *production* is in focus instead of knowledge *reproduction*, the notion that knowledge is *distributed* becomes of practical importance in the learning activities. Learning is expanded when the individual draws on skills and insights of other students. Digital portfolios may open up new opportunities of making visible how the knowledge of different students complement each other, especially when they gain access to other students' portfolios. Do the portfolios reflect not only the contributions of each member but also the 'added learning value' of dialogical interaction of different voices, for instance through students' use of peer feedback? (Dysthe 1996). To answer this question very detailed text analysis would be necessary, and this study just gives an indication of an answer based on the interview material.

From a socio-cultural perspective language is not just a mediating tool for learning, but closely bound up with thinking itself (Vygotsky 1986). In history writing is acknowledged as a major thinking and learning tool (Oldervoll 1996) and language is part and parcel of all phases of portfolio work in this department.

Method and material

The research questions and the theoretical foundation warranted a qualitative approach, with semi-structured interviews with teachers, tutors and students as its main database together with students' texts. In addition we had access to the statistical results of the course evaluation surveys made by one of the course assistant responsible for the technical aspects of the learning management system KARK. Four of the teachers who had been teaching portfolio assessed courses were interviewed, in addition to the Director of Studies and the Administrative Head. These interviews were conducted in their offices and lasted for 1 ½ - 2 hours each. They were taped but not transcribed; instead copious notes were taken and written up immediately after. Only two of the four teaching assistants (tutors) who had agreed to a focus group interview actually showed up, but as one was very experienced and the other rather new as TA, they supplemented each other very well. This 2 ½ hour interview was transcribed and so were six interviews with individual students. Care was taken to include a variation of students regarding grades and portfolio experience, but making a random choice within categories. The text material was analyzed using standard methods of iterative reading and establishing categories that emerged from the material as well as using pre-determined, theory-driven categories. The triangulation of informant groups validates the results, as they corroborate findings to a high degree. The statistical result of the survey is an additional corroboration, as will be shown when discussing the findings.

Contextual factors influencing assessment in history

The Norwegian universities have been strongly influenced by the German Humboldt idea of a university, emphasizing institutional independence, academic freedom and research based

teaching. ‘Academic freedom’ has been a key concept in all countries, but it may be interpreted differently depending on the system. It always, however, involves some measure of institutional autonomy which guarantees freedom of teaching, learning and research. At our universities academic freedom has been interpreted by many faculty members to also include students' freedom to choose whether to attend lectures or write papers. Regular academic essay writing has therefore not been common in most Norwegian undergraduate courses.

While our intellectual links were strong with Germany before World War II, they have been equally strong with the USA after the war. Many graduate students have taken their Ph.d. at American universities and a great number of university professors spend their Sabbatical year in the same places. This means that many university teachers have experience from the American system at the top ranking universities and wanted to change what has been called "the exam giving university" in contrast to the Anglo-American «instruction giving university" (Øverland 1994). Somewhat exaggerated it can be said that while American university students "take courses", students at Norwegian universities have "taken exams". For Norwegian students the ‘contract’ with the university was the curriculum list of texts on which exam questions were based. What students did in the meantime in order to acquire the required knowledge, was in principle their responsibility. It follows that *students’ grades only depended on the final exam, and a very strong emphasis on external assessors* in order to secure fair evaluation. Even though handing in written papers has been advocated as a good way of preparing for the exam, there has always been a strong resistance both among teachers and students to make written papers compulsory at undergraduate level. At master level, however, demands on students’ writing have been very high. Over the last few years, pressure on the universities regarding productivity measures, effectivity and quality control, has put a focus on factors that explain why many students exceed the normal time frame. One of them is lack of practice and feedback on writing.

Reform in Norwegian higher education: changing the “exam-giving university”

A sudden rise of interest in portfolios in Norwegian higher education is due to a major educational reform, instituted by Parliamentary Proposition 27/2001 and put into practice in all institutions by autumn 2003. It is generally called the “Quality Reform”, and a major purpose is aligning the Norwegian higher education system to international systems regarding organization, length of study, grades etc. An important pedagogical aspect of the reform is the improvement of the learning environment by focusing on student active teaching methods, integration between teaching and assessment and closer follow-up of students through continuous feedback. Since portfolios were specifically mentioned in the proposition as one example of alternative assessment forms, portfolio assessment has been tried out or planned over the last couple of years in a variety of disciplines at our universities as well as in professional education. The reform documents also emphasize the crucial role of ICT in improving student learning, but the technology optimism that characterizes the government’s discourse, is not shared by most university teachers.

The Quality Reform has a double face, as it is clearly aimed at effectivity at the same time as it also mirrors the global shift in education from delivery and reproduction of content to constructive learning theories and more student centred learning. One example of the latter is the emphasis on the integration of assessment and teaching. Assessment systems are notoriously resistant to change (Gipps 1994, Shephard 2001), and when the History Department at the University of Bergen introduced portfolios, it can be seen as a major step forward towards more student centred learning², which in several ways differs fundamentally

² ‘Student-centred learning’ has been variously defined, but is usually seen to embody the following tenets: “reliance upon active rather than passive learning, an emphasis on deep learning and understanding, increased

from the more conventional approaches to teaching and learning most often found in Norwegian universities. Other important aspects of university tradition which have shaped the expectations of students entering the university, is on the one hand the focus on the individual student as a self contained entity and on the other hand the academic authority of the professor. When the History Department introduced portfolio assignments where students were supposed to share their drafts as well as their comments with fellow students, such forms of interaction challenged both these aspects and changed the expectations to both students and teachers.

The History Department

History is in itself a traditional academic discipline and not intuitively the place to look for new pedagogy. The History Department at the University of Bergen was, however, the first department to introduce ICT as a pedagogical tool on a large scale, and a net based learning platform, KARK, was developed at the department in 1992. This has had the effect that ICT in this department is not seen as not externally pushed, but internally owned. Because writing is regarded as an indispensable learning tool in history, KARK was designed to fit the needs of teachers giving feedback to student papers as well as giving students access to each others papers. From the very beginning it was seen as important to create a community of learners, and one aspect of this was the discussion forum. Unlike the experience in most disciplines using asynchronous discussion forums, student participation has been continuously very high, with a number of student initiated discussions running throughout each semester.

Another aspect of the departmental culture that is important in order to contextualize the digital portfolio project, is that, contrary to the situation in many academic disciplines, teaching has always had high status at the Department of History. The faculty has taken a keen interest in student evaluations, manifest in the fact that the department won a national award in 1998 for high quality student evaluation system. Discussions of how to improve teaching have been ongoing and when portfolio assessment was announced as an alternative assessment form in the Quality Reform, the education board immediately decided to launch a digital portfolio project in the autumn semester of 2001 and in the spring and autumn semester 2002, asking for volunteer students for a portfolio test project (see survey below). The results were good, in the sense that both teachers and students were satisfied and the grade average improved, and the department decided to upscale the project in spring 2003 as the normal assessment form for all 160 students at basic level (“100-level”) and all 40 students at advanced level (“200 - level”).

Characteristics of portfolio assessment at the History Department

Overview of the development of portfolio assessment 2001-2003

While KARK, the local LMS, was developed by one of the teachers, Jan Oldervoll, from 1992-95 and used for writing and discussion forum, the first students (30) tried out portfolio assessment in 2001. The working portfolio during the first four semesters consisted of 6 papers, all with student and teacher feedback. The students selected 4 papers for the presentation portfolio, which in addition consisted of response texts and discussion entries. The summative assessment of this portfolio was supplemented with a two hours school examination, and the possibility of an oral exam if the discrepancy between the portfolio grade and the oral grade was big.

responsibility and accountability on the part of the student, an increased sense of autonomy in the learning, an interdependence between teacher and learning (as opposed to complete dependence or independence” (Fay, 1988, quoted from Lea et al. 2003, p 322). In addition student and teacher reflection on the teaching and learning process is usually included in a definition of a student-centred approach.

| Sem | Course | Credits (study points) | Number of stud | Papers in work portfolio | Papers in pres. portfolio | 2hrs trad. written exam | Oral exam | Respons & debate graded | Grade average | Assessed by: |
|------------------|--------------------------|------------------------|----------------|--------------------------|---------------------------|-------------------------|-----------|-------------------------|---------------|----------------------------|
| Autumn 2001 | Norweg. history | 30 | 23 | 6 | 4 | yes | (yes) | Yes | 2.3 | Teacher +external assessor |
| Spring 2002 | World history | 30 | 31 | 6 | 4 | yes | (yes) | yes | 2.7 (all) | yes |
| Autumn 2002 | Norw. history | 30 | 7 | 6 | 4 | yes | (yes) | yes | 2.0 | yes |
| Spring /aut 2002 | Old history | 30 | 102 | 6 | 4 92 pf | Yes | (yes) | yes | 2.6 | yes |
| Spring 2003 | Modern history 100-level | 15 | 160 | 4 | 4 141 pf | no | no | yes | 2.5 | Tutor +external assessor |
| Spring 2003 | Modern history 200 level | 15 | 40 | 1 term-paper 4 drafts | | no | no | no | 2.4 | yes |
| Autumn 2003 | Old history | 15 | 120 | 3 | | yes | no | Respons only | | yes |

Fig. 1: Overview of the development of portfolio assessment 2001-2003: from small scale to full scale

Due to good evaluation and higher completion rates, the department in 2002 decided that all students of the course “Old history” would use portfolios. From 2003 portfolio is instituted as the regular assessment mode for one of the two main courses each semester. Altogether 200 students were assessed solely by portfolios in the spring semester (160 basic students and 40 advanced students).³ The plans are, however, to reintroduce the 2 hours written exam in order to ensure wider coverage. The basic students wrote 4 papers (2000 words) for the portfolio, the advanced students wrote a self-chosen term paper. The four versions of the latter, including peer and teacher comments, were collected in a digital portfolio and handed in for final assessment.

Portfolio processes in history – a comparison with a model of analysis

In order to highlight characteristic features of portfolios used in history, we have chosen to use a model of portfolio processes developed by Dysthe & Engelsen (2003). This is based on a “collection- reflection - selection framework, where students produce artefacts that are collected in a working portfolio, reflect on their quality and select the items for the presentation portfolio, which is then assessed by a teacher and an external assessor. Critical factors in Learning phase 1 are 1) how learning activities are organized (for instance lecture based, project based, student or teacher centred), 2) to what degree students rely on individual work or are involved in interactive, cooperative or collaborative activities, 3) what ICT is used for and what digitalization involves 4) what are the feedback practices (formative assessment) and 5) meta-processes like reflection, self-assessment and use of criteria. Learning phase 2 designates the learning potential in selecting artefacts for the presentation portfolio.

Our model is primarily a descriptive and analytic tool and is meant to help identify critical factors for improvement in different phases of the portfolio process.

³ Of the 92 basic portfolio students in 2002, 32 were women and 60 men. For 62 % of the students history was their first subject at university after the introductory philosophy course. 82 were fulltime students and one fourth had extra jobs.

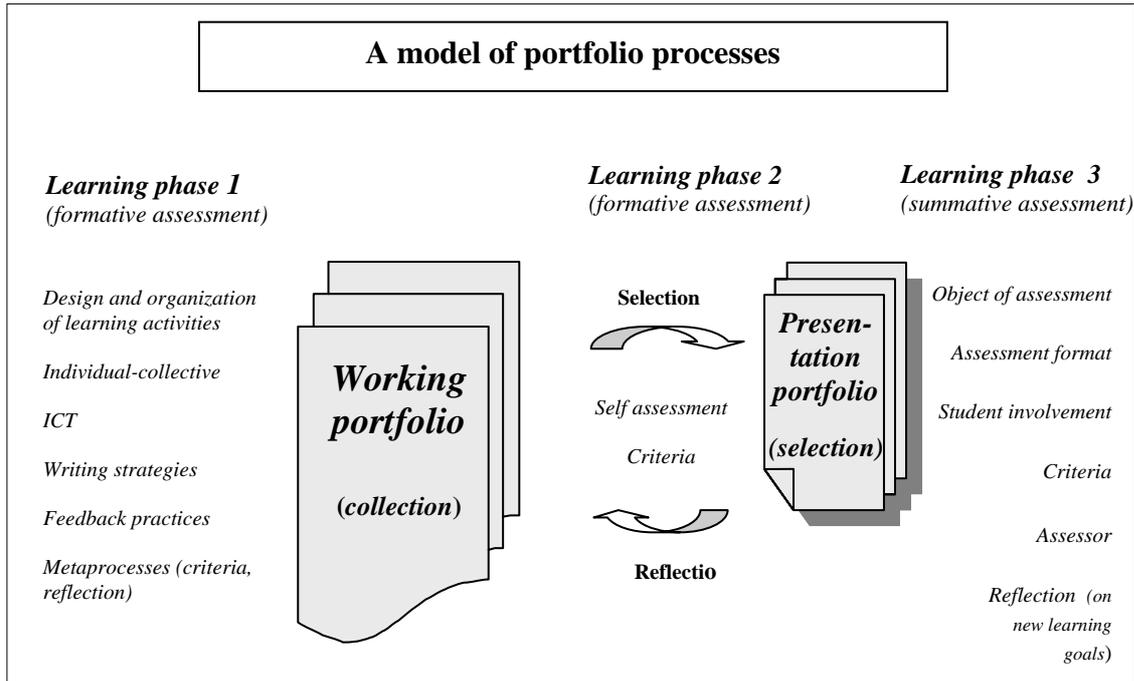


Fig. 2. Portfolio processes (Dysthe & Engelsen 2003)

Description of portfolio processes in history

A striking difference between Fig. 2 and Fig. 3 is that in the latter the working portfolio is identical with the presentation portfolio and as a result there is no Learning phase 2. When there is no selection, there is no pressing need for students to reflect on or discuss quality criteria and engage in self-assessment. The reason for this change is to be found in the

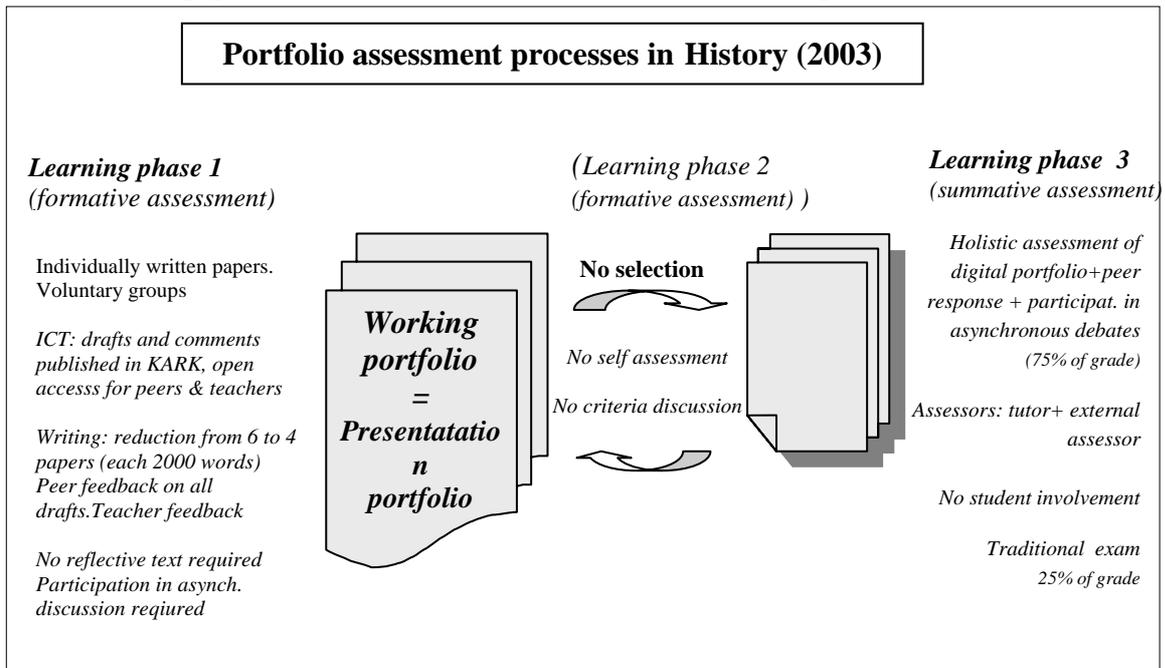


Fig. 3: Description of portfolio processes in history spring semester 2003

reduction of the size of the modules (courses) from 30 credits to 15 credits. Students now take two parallel modules pr. semester and there is less time for writing papers in each (from 6 earlier to 4 papers, each 2000 words). In the first 2001 portfolio project, students had to write an argument for the inclusion of the 4 chosen papers of the 6 produced. According to one of the teachers the lack of choice reduces the learning benefit. In portfolio literature self-assessment is also seen as one of the main advantages of a portfolio system (Hamp-Lyons, Yancey & Weiser 1997, Klenowsky 2001).

One major finding is that the Quality Reform, which advocated portfolio assessment in order to improve learning, reduces the possibilities of establishing an optimal portfolio model, irrespective of the fact that digitalization has facilitated the administration and organization. This is indeed a paradox with far reaching consequences, as it affects a great number of disciplines where traditional exams are exchanged for portfolio assessment (Dysthe & Engelsen 2003). We will argue that it affects the very core of portfolio assessment and reduces an innovative assessment form to just a version of grading course work.

In the Paulson & Paulson definition quoted earlier and also in the portfolio model presented in fig. 2, reflection is a vital element. As we have seen there was a certain element of reflection in portfolios before the reform reduced the size of the modules. The reflective text was related to the selection of 4 of the 6 student texts for the presentation portfolio, and when this disappeared, so did reflection. It would have been possible to include reflective texts in the portfolios, but the teachers did not see reflection as a key learning process. This is noteworthy in view of the importance of meta-cognitive processes in constructivist learning theory and the emphasis on reflection in literature on learning in higher education during the last decades. Many university teachers, however, do not regard educational theory as relevant and involvement in activities that are not directly discipline oriented, like meta-cognitive reflection, are often regarded as a waste of time. Not surprisingly, students will adopt the same attitude. Portfolio research in other settings, for instance in Academic Writing, indicates nevertheless that reflection and self-assessment has a positive effect on learning and that the transparency of digitalized portfolios provides inexperienced students models of how to do write reflective texts, which is an unknown genre to many students.

The summative assessment practice of the modern history course

The portfolio consisted of 4 papers, students' 12 peer response comments and a link to their participation in the asynchronous debates. The quality of the latter two could add or subtract 1-2 points to the portfolio grade.⁴ There was for instance a student whose grade was raised from 2.2 to 2.0 due to excellent feedback and debating activities. This may be an example of competence or skills' assessment, but what actually seems to be assessed is a combination of active participation, feedback competence and debating skills.⁵ *The practice of including peer feedback (peer assessment) in the summative assessment of students, is innovative in a traditional academic discipline in Norway, and it certainly sends a strong message to the students about the importance and value of this activity.* To train students for this task would therefore be consistent with this message. The digitalization of portfolios facilitated this development as the transparency of the medium legitimizes that assessment is open to peer insight.

⁴ Spring 2003 was the last semester with the old grade system, using numbers 1-4 and all decimals (4 = fail, 1 is top). The common international system of A-F is part of the Quality reform changes.

⁵ From next semester only feedback will count towards the grade. Students have rated the learning effect from debates consistently low, while many teachers disagree and think it is a useful learning forum. According to the teacher assistants, however, many students just enter the debate in the last week before assessment time in order to fulfil the requirements.

Another new aspect of assessment brought to the fore by portfolios was *product versus process assessment* and digitalization is a prerequisite for the latter. The traditional assessment culture has rejected process assessment, and the fact that the History Department has seriously discussed how to evaluate students' development process in writing argumentative essays and not just the end product, is a testimony to the transition in pedagogical thinking. The practical problems involved in fair assessment of process, however, led to the 2003 decision to base the grade on a holistic assessment of the portfolio, letting the last essay count most. The tendency to return to traditional product assessment is even clearer in the advanced course where only the final draft will count towards the grade from next semester.

The digital aspects of the portfolio assessment system – a discussion

The History Department had never used paper-based portfolios and digitalization was more or less taken for granted; also because the learning management system KARK was specifically designed by a colleague in order to support writing processes. All the interviewed teachers stated categorically that digitalization was absolutely vital. When they elaborated this, it became clear that what they meant was that *the administration of a portfolio system* with so many students would have been impossible to handle for the administrative staff.

“Filing cabinet or learning arena?” is the provocative title of an article by Hildegunn Otnes based on a digital portfolio project in three Norwegian teacher education institutions (Dysthe & Engelsen 2003). Otnes states that digital portfolio too often turns out to be little more than a filing cabinet; an easy way to administer multiple drafts and deadlines, while the media-specific learning potentials are ignored. Such possibilities are for instance hidden in the broad terms *interactivity, multimediality, and hypertextuality* and Otnes insists that digital portfolios should make visible how the technology affects learning and how they are qualitatively different from non-digital portfolios (Otnes 2003, p 89 ff). The history version of portfolios utilizes *interactivity in the form of an extensive feedback system* that we will describe in more detail. There was agreement among our informants that this constituted the major learning benefit in their digital portfolio system.

The possibilities in multimediality and hypertextuality, however, was not used and we will first discuss why these qualitatively new learning opportunities were not even considered. As we have seen, a major learning goal for the module in the basic course in Modern History was to train students in argumentative historical writing. Multi-medial texts (visual or auditive) did not fill this purpose, since students needed training in writing this particular genre. According to the teachers hypertext is also unsuited because the principles of a hypertextual structure runs contrary to the logical structure necessary in an argumentative essay. The very point of a hypertext is to leave it open for the reader to find his or her path through the text, while the point of the essay is to make the reader follow the author's convincing presentation and argumentation. It is conceivable, however, that with a wider time frame of the module, teachers could have experimented with a greater variety of genres, including hypertext, which could have facilitated the development of argumentative writing in non-traditional ways. Again, the rigidity of the module system also restricts pedagogical experimentation, as we have found in other institutions.

In a study of digital portfolios in two teacher institutions in Norway, Vestfold and Stord/Haugesund, Dysthe & Engelsen (2003) found that beside the use of hypertext, qualitatively new learning opportunities occurred when *cross-institutional student projects* were facilitated by the communication technology. Students collaborated across sites in several literature projects, thus using the distributed knowledge of fellow students. This example makes it obvious how the disciplinary characteristics, the teaching traditions in different institutions and the particularities of the course goals may open or close the door of opportunity in digital portfolios. A history course in a teacher institution would, for instance,

have included in its goal a didactical component, and thus opened up a great variety of documentation genres similar to the literature projects. Traditional academic disciplines rely on a very limited number of academic genres and this restricts their use of the possibilities offered by the digital medium.⁶

History has an impressive record of active use of *the asynchronous discussion forum*. Contrary to what has been reported in international literature across disciplines, this department has succeeded in getting students to initiate and carry on a number of discussion each semester. Perhaps these could have been tied closer up to the portfolio itself, for instance by including different types of discussion entries (Bonk & King 1997). Maybe then the students would have connected the discussions better to the actual learning goals of the course. The evaluation survey showed a surprising low percentage of students (17 %) who listed high learning benefit from this activity. For this reason it has been decided to omit discussion entries from the portfolios from next semester, thus making the portfolio even more of a mono-genre.

This discussion has shown that although digitalization of portfolios is taken for granted in this history department, the learning potential may not be fully utilized. In the following we will describe the open feedback system in more detail and discuss in what respect the digital medium is instrumental in facilitating learning and what other factors are crucial.

The learning potential in digital and interactive feedback – critical factors

Compulsory peer and teacher feedback and the influence of digitalization

Feedback is increasingly understood as crucial for learning (Black & William 1998). In the History model of portfolio assessment the feedback system is arguably the most important innovation, first, because it is *compulsory* and thus has an impact on all students, second, because the *transparency* of the medium makes public what has previously been the most private arena in teaching. These two aspects are interwoven and cannot be completely separated in the analysis.

Teachers have always provided feedback to the few students who have handed in voluntary papers, but our informants agree that the quality of the feedback they provide has increased because they have to publish written feedback in KARK. Peer feedback is, however, a recent phenomenon at Norwegian universities, and when used, it is normally voluntary. Students in this portfolio model are not only encouraged to respond to each other; they are forced to do so by the following means: 1) teacher (tutor) feedback is not given to a student draft until two students have responded; 2) students who systematically fail to respond to peers will fail; 3) the final grade also includes assessment of the student's response competence. This means that each student has to give written feedback to 8 peer papers during the course. KARK invites comments after each paragraph as a pencil and space emerge in the document for comments. Students are supposed to comment throughout the draft and not just at the end.

Effects of transparency and accessibility: interactive dialogues and distributed learning?

The most open portfolios are identical with home pages on the Internet, where there in principle are no limitations to access and where students publish for and often interact with varied audiences. Vestfold University College initially chose this model (Otnes 2002, 2003). All LMS require password, and choice has to be made about who has access. At the History Department student texts and student and teacher response were accessible in KARK to

⁶ Some of the learning platforms in the market also restrict the pedagogical possibilities and consolidate old ways of learning (Håland & Bostad 2002).

everyone on the course. Such transparency is impossible without the digital medium, and our interpretation is that this was the main pedagogical benefit directly attributed to the medium. But there is nothing automatic about learning effects, and the crucial question is: To what extent do students utilize the learning potential in the feedback processes?

Formative assessment involves several processes that happen consecutively: reading peer papers, giving feedback to peers, getting feedback from peer, getting feedback from teacher or TA, reading comments, using feedback in revision of their own paper. A good writing process is iterative, which means that it most often involves several such cycles. We have three sources of information about how students utilized the various elements: interviews with students, teachers and TAs as well as analysis of student drafts. All these sources give three clear findings: 1) all students report learning a lot from reading other students' paper as well as from feedback comments from teachers and peers 2) there are great variations among students regarding both length and quality of the comments they write 2) student revision of drafts is in general rather superficial.

According to Bakhtin (1986), a philosopher of language and dialogue, meaning and understanding does not come from the juxtaposition of voices alone, but from the tension between diverging voices. Students confirm that they benefit particularly from the multiple perspectives when reading different students ways of handling topics they themselves have tried to write about and the critical or affirmative comments from multiple readers.

Regarding students' writing of papers and comments, the effect of the transparency is ambiguous: Some students reported that because comments were open for all students to read, they suffered from writers' block and perfectionism. Others underlined that the publications of comments led to an improvement in the quality of feedback, both teachers' and students'. They made a greater effort because it was made public. The length of students' comments gives an indication of the time and effort students invested in giving feedback. The most conscientious student wrote 103 lines pages, while the shortest was 32 lines. We do not know much about how students actually perform the feedback task, but the quality varied from poor and even meaningless response to excellent. The teacher assistants had also noticed that many students did not read the whole paper before writing comments. Utterances like "oh, here I see that you have done what I just asked for" indicate that the students wrote comment as they were reading. For some students commenting was just a necessary exercise in order to get the TA's comments, and they invested a minimum of time in it. The survey revealed alarming figures regarding the total amount of time students spent studying, and this would also affect the revision of drafts. 52 % spent less than 11 hours a week studying for this particular basic course, and 23 % spent more than 15 hours a week. Lack of motivation and lack of skills were two other obvious reasons. *Our conclusion is clearly that the learning potential in open peer and teacher feedback is not fully utilized, the reasons being students' lack of investment in studies, lack of motivation and lack of skills.* The latter is probably easiest to deal with.

Training peer feedback skills: an important area of improvement

According to the interviews with the students as well as the TAs, students didn't quite know how to handle the response task. "We had to try to motivate students to give response as they felt they lacked competence, especially those who had never done it before." (TA) One of the students who felt very unsure of her own capabilities said:

I think it is quite difficult. Especially the first time, as I did not feel I knew enough to criticise my fellow students. But it was easier the next time." (Randi) "What I find most difficult is giving response to good essays, because then there is not much to comment on, and at the same time a feel I have to write something." (Einar)

Providing constructive feedback is a difficult task. Even new students seem to have a good grasp of what is needed, but the question is whether students are equipped for the task. The

survey shows that students find *giving* feedback slightly more useful than *getting* peer feedback. This may be due to low quality of the peer assessment. In the interviews students are able to formulate what constitute good and useful feedback. When asked what was a useful commentary, students typically answered:

Giving constructive feedback is most important. And giving reasons for the comments, both the positive and the negative, for instance “it is good that you have considered this aspect of the topic” or “you do a good job seeing the connection between these two aspects”. When criticizing, you also need to be concrete about what you do not understand or what is poorly formulated; exemplify and give specific reference in the text (Einar).

When a fellow student just writes that paragraph three is poorly formulated, it does not help me much if I do not know what is wrong. But if he writes: Here you need a reference to xx” or ”Here you should underpin your assertion in order to make it stronger” it would help me a lot when I try to revise the paper (Reidar).

We will argue that in order to utilize the learning potential in the open feedback process of the history portfolios, it is necessary to train students in giving peer feedback and to focus on quality criteria of the genre they are expected to master. Sluijsmans’ study “Student involvement in assessment” (2002)⁷ is relevant here. There are strong elements of assessment in the feedback that history students are asked to give to fellow students’ drafts, but the task is not presented to them as an assessment task. Students are simply asked to give ‘response’, ‘comments’ or ‘feedback’ and the purpose is to offer help in the writing and revision process. In Norway peer feedback has been advocated in the context of process oriented writing instruction, and in schools this feedback is more often writer-based than criteria-based (Dysthe 1999). But students face the problem that they know neither the genre demands nor the quality criteria. In Norway as in most European countries academic writing has not been explicitly taught at the universities and students are supposed to learn the genres as they go along. Assessment criteria have also traditionally been implicit. When specifically asked, the teachers in history did not see the need for making criteria explicit. This coincides with the results of a study made at three other departments at the University of Bergen (Dysthe 2002).

Our conclusion is that open feedback requires that teacher formulate explicit criteria, discuss them with students and train them in using criteria based feedback as well as general revision skills. According to the teacher assistants many students seemed to have problems revising both on a global and on paragraph level:

I noticed that often when I had commented a sentence or a passage that needed revision, the students very often just deleted the whole passage instead of revising it (Maja, TA). I was surprised that the second version of the student papers was very much like the first one. I was rather annoyed since I spent much extra work going through the second draft, only to discover that the changes students had made were just cosmetic (Arnstein, TA) I gave very thorough feedback and even so the revisions in the final drafts were minimal (Maja TA).

Another factor which may influence the benefit students have from formative assessment is *when* revisions are called for. In the history model students are not asked to revise a draft before they start writing the next paper. Instead they are advised to revise all the portfolio papers at the end of course before the portfolio is closed. The rationale behind this is that students can then benefit from what they have learnt throughout the whole semester, but the back side of this practice is that students have forgotten much of what they actually learnt from the feedback in the midst of the writing process.

⁷ In her study Sluijsmans (2002) focused on the importance of training peer assessment skills in problem based courses where alternative assessment was used. The concepts ‘feedback’ and ‘peer assessment’ are often treated as synonyms in the assessment literature (Toppings 2003, p. 66). Falchikov (1995), however, defines peer assessment as the process of rating their peers, while Somervel (1993) “indicates that at one end of the spectrum peer assessment may involve feedback of a qualitative nature or, at the other, may involve students in marking. (quoted from Dochy, Segers & Sluijsmans 1999, p 337).

Summary of findings and educational significance of the study

In Norway we are now in a transition phase where cultures of learning and cultures of assessment are changing and live side by side in all educational institutions. When the History Department introduced portfolio assessment in 2001, it was a break with several aspects of pedagogical traditions in the Humanities and Social Sciences at Norwegian universities: Traditional sit down exams at the end of term were replaced by a portfolio collection of essays produced throughout the semester, essay writing was no longer voluntary, peer feedback became compulsory, teachers responded to drafts and students were expected to exercise self assessment by selecting 4 of 6 essays for final grading. The digitalization of the handling of student papers meant that that the former privacy of student writing as well as of advising individual students, was exchanged for transparency within the LMS.

To those who have followed the international debate on teaching and assessment in higher education, these changes may seem commonplace. In the context of our university culture, and particularly in an old and traditional academic discipline, however, they represent dramatic shifts for both students and teachers. Most students regard the formative assessment through both peer and teacher feedback as an improvement of the learning environment, but the price to pay is control. The 'exam giving university' with its freedom of how to study is exchanged for a series of strict deadlines, and the critics argue that the universities are turning into schools and that the close follow up and control of students will counteract critical thinking and creativity. Teaching assistants are becoming a much more important part of the system; a necessary prerequisite for giving feedback on the greatly increased number of student papers.

We would argue, however, that the students are not reaping the full benefit of digital portfolios because the department does not take the full consequences of the changes that have been instituted. *Digitalization of portfolios is a basic prerequisite for an effective feedback system, but our study has shown that it does not ensure high quality feedback, nor that students actually use it when they revise. The unused learning potential of formative assessment is dependent on students' skills to give as well as to utilize feedback. In order to get full benefit of the portfolio assessment model where students, teachers and teacher assistants invest much time in giving response, the introduction of genre knowledge, explicit assessment criteria and training response and revision skills seems necessary.* Such training runs counter to the university culture where the focus has been on the transmission of disciplinary knowledge, not on procedural or pedagogical knowledge, but the new demands on university students require new measures. If we formulate this common-sense insight in more theoretical language: Digital portfolios are new mediating cultural tools in history, but the learning strategies and skills that ensure full benefit, have not yet become embedded in the culture and common knowledge among students, nor has reflection and self-assessment been taken up in the repertoire which teachers and students regard as necessary for academic learning. Cultural tools can change the context for learning, but it is *the use of the tools* that makes the difference. From a socio-cultural perspective assessment is a fundamental part of the whole learning environment. By integrating digital portfolios in the students' learning process, the History Department improved the learning opportunities for students in line with the Quality Reform. It is a paradox, however, that the reduction of the size of course modules, which also was a result of the Reform, changed the portfolio model and resulted in less opportunities for self-assessment. This is an example of how one part of an educational reform may hamper another, and neither ICT nor portfolios in themselves guarantee success.

Appendix: Student evaluations of portfolio assessment

In the digital evaluation survey conducted by the institute in June 2003, students were asked to indicate one of three levels of satisfaction with the items asked for: high, average, low.

| | High | Average | Low |
|--|--------|---------|-----|
| How satisfied are you with portfolio assessment? | 73 | 22 | 2 |
| Would you recommend portfolio to a friend? | 88 yes | 6 no | 0 |
| How would you rank the benefit you have had from writing papers? | 88 | 8 | 2 |
| Learning benefit from giving peer response | 41 | 43 | 14 |
| Learning benefit from teacher response | 79 | 17 | 2 |
| Learning benefit from peer response on your drafts | 51 | 46 | 2 |
| Learning benefit from reading fellow students' papers | 60 | 37 | 2 |
| Learning benefit from asynchronous discussions | 10 | 27 | 37 |
| Learning benefit from reading | 73 | 27 | 0 |
| Learning benefit from group meetings | 19 | 38 | 2 |

Fig. 4: Student evaluation of aspects of portfolio assessment

As can be seen from the scores in Fig. 4, students are very satisfied with portfolio assessment in general, with 73 % indicating high satisfaction and 88 % who would recommend a course with portfolio assessment to a friend. (There were some variations among the students in the five topic groups.) When asked about the learning benefit of different elements of the portfolio process, students ranked the writing of essays highest (88 high) and teacher feedback second highest (79 high). Teacher feedback includes feedback given by teacher assistants who are responsible for giving response to all basic students' portfolios. History has made a point of employing only TAs who had finished their Master Degree in history. They receive no specific training for their formative and summative assessment tasks, but they emphasized in the interviews that their experience in writing groups and manuscript seminars while writing their master thesis had been invaluable for both the formative and the summative assessment tasks. The learning involved in *giving* feedback to peers was seen as about as high as *receiving* peer feedback on drafts. Reading fellow students' papers got an even higher score. These statistical results are interesting because they corroborate the impression from the interviews and indicate that there is no negative effect of making peer feedback compulsory. But we have to analyze the interviews and the written texts themselves in order to get more than a superficial picture of how the formative assessment functions in practice.

REFERENCES:

- BAKHTIN, M.M. (1981) **The dialogic imagination: Four essays** by M.M. Bakhtin. Ed. Michael Holquist. Trans. Caryl Emerson & Michael Holquist. Austin: University of Texas Press.
- BAKHTIN, M.M. (1986) **Speech genres and other late essays**. Ed. Caryl Emerson & Michael Holquist. Trans. V. W. McGee. Austin: University of Texas Press.
- BLACK, I, et al. (eds.) (1994) **New directions in portfolio assessment. Reflective practice, critical theory and large-scale scoring**. (Portsmouth, NH, Boynton/Cook, Heinemann)
- BLACK, P. J. & WILLIAM, D. (1998) Assessment and classroom learning. **Assessment in Education: Principles, Policy and Practice**, 5 (1), 7-73.
- BONK, C.J. & KING, K.S. (eds.) **Electronic collaborators. Learner-centred technologies for literacy, apprenticeship and discourse**. Mahwah; N.J: Laurence Erlbaum.
- BROWN, G, BULL, J. & PENDLEBURY, M. (1997) **Assessing student learning in higher education**. (London/New York, Routledge)
- DOCHY, F., SEEGER, M. & SLUIJSMANS, D. (1999) the use of self-, peer and co-assessment in higher education: a review. **Studies in Higher Education**, 331-350.
- DYSTHE, O. (1996) The Multivoiced Classroom. Interaction of Writing and Classroom Discourse. **Written Communication**, Vol 13. p. 385-425.
- DYSTHE O. & BREISTEIN, S. (1999). **Fagskriving og rettleiing ved universitetet: Intervjustudie ved Institutt for administrasjon og organisasjonsvitenskap**. Bergen: Program for læringsforskning, Universitetet i Bergen.
- DYSTHE, O. (ed.) (2001) **Dialog, samspel og læring**. (Oslo, Abstrakt) (Dialogue, interaction and learning)
- DYSTHE, O. (2002) Professors as mediators of disciplinary text cultures. **Written Communication**. 19, 4, s. 458-493
- DYSTHE, O. & ENGELSEN, K.S. (eds.) (2003) **Mapper som pedagogisk redskap. Perspektiver og erfaringer** [Portfolios as pedagogical tools. Perspectives and experiences..] Oslo: Abstrakt forlag.
- GIPPS, C. (1994) **Beyond testing. Towards a theory of educational assessment**. (London, Falmer Press)
- GREENO, J. COLLINS, A., RESNICK, L. 1996. *Cognition and Learning*, in D. BERLINER & R. CALFEE, (ed.) **Handbook of Educational Psychology**, pp. 15-46.

- HAMP-LYONS & CONDON (2000) *Assessing the portfolio: Principles for practice, theory, research*, (NJ, Hampton Press)
- HÅLAND, E. & BOSTAD, K. (2002) Innføring og bruk av Coursekeeper ved NTNU.[Introduction and use of Coursekeeper] Statusrapport 3. Laboratoriet for IKT og læring/Program for lærerutdanning, NTNU.
- KOSCHMANN, T. (1999) Toward a dialogic theory of learning: Bakhtin's contribution to understanding learning in settings of collaboration. In **Proceedings of the Computer Support for Collaborative Learning 1999 Conference**, C. Hoadley & J. Rochelle (Eds.) Desc. 12-15, Stanford University, California. (Mahwah, NJ: Lawrence Erlbaum. Ass.) , pp. 308-313).
- KLENOWSKI, V. (2002) **Devloping portfolios for learning and assessment. Proseses and principles**. (London/New York, Routledge/Falmer)
- LAVE, J. & WENGER, E. (1991) **Situated learning. Legitimate peripheral participation**, (New York, Cambridge UP)
- LEA, S.J, STEPHENSON, D. & TROY, J. (2003) Higher education students' attitudes to student-centred learning: beyond 'education bulimia'? **Studies in Higher Education**. Vol 28 (3), 303- 321-.
- MCDONALD, J. (2002) Developing competent e-learners: the role of assessment. (Paper at the **EARLI/Northumbria Assessment Conference**, august 2002)
- MCLAUGHLIN, M. & VOGT, M. E. (1996) **Portfolios in teacher education**, (International Reading Association)
- OLDERVOLL, J. (2003) Mappervurdering i et stort fag. In DYSTHE, O. & ENGELSEN, K.S. (eds.): **Mapper som pedagogisk redskap. Perspektiver og erfaringer** [Portfolios as pedagogical tools.] Oslo: Abstrakt forlag.
- OTNES, H. (2002) Collective digital text development in teacher education. Hypertext and dialogism in digital portfolios, (Paper at **NERA-congress**, Tallinn 7-9. March 2002).
- OTNES, H. (2003) Arkivskuff eller læringsarena. Lærings- og dokumentasjonssjangrer i digitale mapper. In DYSTHE, O. & ENGELSEN, K.S. (eds.) : **Mapper som pedagogisk redskap. Perspektiver og erfaringer.** [Portfolios as pedagogical tools. Perspectives and experiences. Oslo: Abstrakt forlag.
- Parliamentary proposition 27/(2000-2001): **Gjør din plikt - Krev din rett. Kvalitetsreform av høyere utdanning**. (<http://www.odin.dep.no/ufd/norsk/publ/stmeld/014001-040004/index-dok000-b-n-a.html>) (Do your duty – demand your rights. Quality Reform of higher education)
- PAULSON, F. L, PAULSON, P. R. & MEYER, C .(1991) What makes a portfolio a portfolio? in **Educational Leadership** 48, 5, p. 60-63.
- SEGERS, M., DOCHY, F. & CASCALLAR, E. (eds.) (2003) **Optimising new modes of assessment: In search of qualities and standards**. Dordrecht/Boston/London: Kluwer Academic Press.
- SHEPARD, L. A. (2001) The role of classroom assessment in teaching and learning. I: Richardson, V. (red.): **Handbook of research on teaching, 4th edition**. Washington, DC: American Educational Research Association.
- SLULJSMANS, D. 2002: **Student involvement in assessment. The training of peer assessment skills**. Dr. dissertation, Open University, Netherland.
- SLUIJSMANS, D. BRAND-GRUWEL, S & VAN MEERIENBOER, G.: (2002) Peer assessment training in teacher education: effects on performance and perceptions. **Assessment & Evaluation in Higher Education**. Vol 27 (5), 443–453.
- SOMERVEL, H. (1993) Issues in assesment, enterprise and higher education: the case for self-, peer and collaborative assesment. **Assesment and Evaluation in Higher Education**, 18, 221-233.
- SÄLJÖ, R. (2000) **Lärande i praktiken. Et sociokulturelt perspektiv**. (Stockholm: Prisma)
- TOPPING, K. (2003) Self and peer assessment in school and university. In SEEGERS, M., DOCHY, F. & CASCALLAR, E. (eds.) (2003) **Optimising new modes of assessment: In search of qualities and standards**. (Dordrecht/Boston/London, Kluwer Academic Press)
- VYGOTSKY, L.S. (1986). **Thought and language**. Translation by A. Kozulin, (Cambridge, Mass.: MIT Press.)
- WENGER, E. (1998) **Communities of practice. Learning, meaning, and identity**, (Cambridge: Cambridge Univ. Press)
- WERTSCH, J. V. (1998) **Mind as action**. (Cambridge. MA: Harvard University Press Publishers.)
- WOODWARD, H. & NANLOHY, P (2002) Digital portfolios: Fact or fashion, (Paper at the **EARLI/Northumbria Assessment Conference**, august 2002)
- ZEICHNER, K. & WRAY, S. (2000). The teaching portfolio as a vehicle for student teacher development: What we know and what we need to know, (Paper presented at the annual meeting of the **American Educational Research Association**, New Orleans, LA. April)
- YANCEY, K. B. & WEISER, I. eds. (1997) **Situating Portfolios: Four Perspectives**, (Logan, UT: Utah State UP)
- ØVERLAND, O. (1994) Skrivning ved det undervisningsgivende og det eksamengivende universitetet. [Writing at the instruction-giving and the exam-giving university] In **Skrivning ved universitetet** [Writing at the university] Tromsø: UNIKOM.