

FLEXIBLE EXAMINATION AS A PATHWAY TO LEARNING

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Abstract

Previous research in the field of educational development has highlighted the importance of examination in the learning process. In most educational contexts tests and grades are the most important influences on the students' learning strategies. A well planned examination strategy is seen as contributing to better learning. A test of flexible examination forms was carried out in the Linnaeus University's teacher training program in Sweden. During a course in special needs education, 119 teacher trainees were given the opportunity to choose examination method at the start of the course. They were able to choose between four different examination methods and were in addition allowed to propose their own examination method.

After the students had been examined they completed an evaluation on their newly acquired and previous examination experience and with the key question being which form of examination was most beneficial to the learning process.

The results show that even if the students saw examination as an opportunity for learning and appreciated the option of freely choosing examination method, they did not choose the examination form according to its benefit for the learning process. On the contrary they chose the examination form that they expected to be the easiest path towards high grades.

Key words: *assessment, assessment system, examination, flexible examination, learning process.*

Introduction

Significant research in the educational research field demonstrates that examination and assessment are of decisive importance for people's conscious as well as unconscious strategies for their own learning (Marton, Dahlgren, Svensson & Säljö, 1999; Light & Cox, 2001). A carefully chosen examination method may be expected to lead to a better learning quality, while the "wrong" kind of examination often has the opposite effect.

If students perceive that their learning will be measured in terms of reproducing facts or implementing memorised procedures and formulae, they will adopt approaches that prevent understanding from being reached (Ramsden, 2003, p. 177).

In order to assess the value of different educational efforts it is necessary to study the terms, forms and results of the examination that has been implemented. It is well known that examinations have a significant effect, since they may be said to constitute part of the "hidden" program or course syllabus. Examinations carry a great influence on how students plan their learning strategy. If the student only looks upon examination as "something to get through", there is a danger of acquiring superficial learning without any real understanding (Marton, Dahlgren, Svensson & Säljö, 1999). It is not the examination form alone that affects students' learning strategies, but above all the way examination requirements are formulated.

As regards aspects that are relevant to effective examination Pittaway, Hannon, Gibb and

Thompson (2009) have compiled nine important starting points for developing the effectiveness of examination and assessment.

1) Assessment should be valid, reliable and consistent. 2) The purpose of assessment should be clearly explained. 3) The amount should be appropriate. 4) The criteria should be understandable, explicit and transparent. 5) Assessment should be based on understanding of how students learn. 6) It should accommodate individual differences in students. 7) Assessment procedures should allow students to receive feedback on their learning. 8) Assessment should allow students with opportunities to reflect on their practice and their learning. 9) Assessment should be an integral component of course designs. (Pittaway, L., Hannon, P., Gibb, A. & Thompson, J., 2009, p.74)

It is also essential that students are given the opportunity to express themselves and exercise creativity on the basis of their own background and knowledge at the examination, or there is a risk that they have the feeling of being subjected to a control system (Light & Cox, 2001).

There are different methods for checking knowledge. Oral tests may be a reliable but resource-intensive way of measuring student knowledge, as they provide the opportunity to ask far-reaching and knowledge-checking questions (Wass, Wakeford, Neighbour & Van der Vleuten, 2003). Another way of examining and simultaneously saving resources in the long run is to use web-based multiple-choice questions on certain parts of the course content (Nevid & Mahon, 2009.) A central element which seems to recur in research on learning and examination is the importance of working in groups where students test their own mental models against those of the other group members (Merril & Gilbert, 2008). Giving expression to great expectations and respecting students' different abilities and learning styles are other important elements in effective examining (Chickering & Gamson, 1987). Constructive criticism of students' examination is a good way of raising educational quality (Dysthe, 2007). Unfortunately, the feedback is often limited to an aggregate grade expressed as a value on a set scale.

Peer assessment may be a method whereby students become a resource for assessing each other's work. The character of peer assessment may be either formative or summative for the purpose of encouraging students and contributing to learning in greater depth (Li, Liu & Steckelberg, 2010). Studies have shown that peer assessment, for instance in connection with essay writing, is as effective as teacher assessment. This means that students may well participate in assessment together with an examiner (Jokela, & Karlsudd, 2007; Karlsudd, 2010).

Even though an examination may take different shapes, the requirements must be the same for all examinees. They include bringing to light the knowledge and skills the examinee possesses. The form of the examination is a matter of how its practical implementation may stimulate and pave the way to qualitative learning strategies and a good learning process for each individual on the basis of his or her own needs and qualifications.

Anchoring examination requirements in educational theories, goal statements and course literature may reinforce the academic approach. Ramsden (1998) identified four different categories of study orientation: meaning orientation, reproductive orientation, strategic orientation and non-academic orientation. A desirable effect of making students choose their own examination method is that a higher degree of meaning-oriented motivation and commitment may be achieved. Bloom's (Anderson, Krathwohl, 2001) revised taxonomy defines increasing quality degrees of knowledge and the ability to use these within a subject or field. The three top steps of analyzing, evaluating and creating are all to be found in the meaning-oriented field. Similarly, Biggs and Collis (1982) in the so-called Structure of Observed Learning Outcome (SOLO) taxonomy use five levels of understanding to describe and evaluate learning outcome. Here the most qualitative learning appears at the extended abstract level, which means the endeavour to reach a wider and deeper context. In the project described in this article the focus was on reinforcing learning objectives and examining towards the higher levels formulated

in the taxonomies described above. Maslow's (1970) theories on the hierarchy of needs are strongly connected with the levels of understanding and knowledge previously referred to. Hence, security and self-realization become relevant concepts for analysis and discussion.

Research Problem

The primary aim of this study was to give all students influence over their learning and examination in order to achieve higher learning quality. Student influence is a right formulated in the Swedish 1993 Higher Education Act, where the right of functionally disabled students to choose alternative examination forms is also emphasized. The study conducted after the implementation of the project formulated two research questions:

- How do teacher students look upon their own assessment and examination?
- How do students act on the basis of their view of examinations if they are given the opportunity to choose examination form?

Research Methodology

General Background of Research

The flexible examination form project was conducted during a five-week teacher educator course in special needs education. The course content dealt with current special needs education research and different dysfunctions, a large part of the content giving support to positioning the participants' own fundamental values. The focus was not on detailed knowledge and facts. At the beginning of the course students were given the choice between five different examination forms, the fifth of which offered space for designing their own examination in consultation with the course management and the examiner.

After all teacher students had completed the examination they were requested to answer a questionnaire about their view of the individually chosen examination. The questionnaire included questions on which examination forms had prevailed in their education and what learning situations the students considered especially beneficial. Further questions were asked about their view of grading, the motivation behind the choice of examination as well as requests concerning future examinations.

Sample

The student group in the course where the test was performed consisted in all of 146 teacher trainees, 119 (82 %) of whom answered the questionnaire. The sample was representative of the teacher training program regarding gender and teaching alignment, since the course was obligatory for all teacher trainees. The students were informed about the study when the course started. The questionnaire was sent by email to the students' university email addresses after the course was finished. The survey system, WebSurvey, kept track of which students had completed the questionnaire, and two reminders were sent out to the students who had not answered. It was emphasized that the survey was anonymous. There is nothing to indicate that the students who did not answer the questionnaire would in any essential respect differ from those who did, other than that they did not want to or could not find the time to participate, were ill or that they did not read their student mail.

These were the five examination methods the students were able to choose between:

- A popular scientific article posted in a discussion forum, with opposition within the forum.

- Synchronous oral presentation, either face-to-face or via video conference.
- Asynchronous oral presentation. An audio file posted in a discussion forum, with opposition according to the same principle.
- Written examination.
- Individually constructed examination.

The grading criteria were the same for each examination method.

Research Results

Students' Previous Examination Experience

More than half (56 %) of the students stated take-home examination as the most frequent examination form in the teacher training program. After this came written examination (24 %), oral presentation (18 %) and lastly "other" examination method (2 %). The majority of the respondents (72 %) thought that the examinations they had taken part in during their training had managed to give a good or very good picture of their competence within the field examined. A minor part (18 %) did not share this view. Nearly half (47 %) the students stated that they regarded examinations primarily as part of the learning process, whereas about a fourth (26 %) looked on examinations chiefly as knowledge assessment. Some viewed it as an opportunity to show themselves and others what they were able to perform (27 %).

What Activities Have Meant the Most for Student Learning?

The students were requested to rank the "learning value" they had experienced from a number of different activities during their training. Group discussion with a teacher leading the seminar was the activity appreciated the most by the students (rank1) followed by group discussion without a teacher (rank2). The learning activities coming next were taking part in plenary lectures (rank3) and seminars (rank4). Writing papers (rank5) and reading course literature (rank6) were activities given the lowest learning value.

The examination method that had so far been the most common during their training, take-home examination, which meant reading literature and writing papers, was thus one of the activities to which the students at large ascribed the lowest learning value. Group discussions were considered as having the highest learning value, which strengthens the motivation for oral examinations.

Students' View of Grades

The students were asked about their general attitude to grades. Close to a third (30 %) were clearly positive to grades, while a bare fifth (18 %) were negative. Nearly a third (31 %) of the respondents maintained that grades are a good measure of student knowledge. Half (51 %) of the students who were positive to grades were negative to grading scales and only a third (33 %) were in favour. Others expressed uncertainty on this question.

Student Experiences of the Experiment

Nearly all of the students who took part and answered the questionnaire were positive to the test (98 %). Quite a few considered it fairer to be allowed to choose one's own examination form, while others thought it might be beneficial to choose a form of expression on which one could practise. There were many who appreciated the variation and also thought that the

freedom of choice increased motivation. One student told about her whiplash injury and the way she felt that the chance of choosing examination method put her on an equal footing with her fellow students.

In spite of positive reactions to the flexible examination experiment, there were also critical comments. Some were of the opinion that the teachers in the course should be best suited to determine which examination form would be appropriate for the course content and for pushing the learning process in the right direction. This is illustrated by the below quotation:

“The course management does not take the expected responsibility for students’ learning. If, for example, the course management considers a written examination to be the best in the learning process or for “checking”, this should be it. If another oral/written form is the best, this should be chosen. We can’t be responsible for achieving a good variation of examination forms, since we may then risk rejecting the choice we might need the most in our development.”

Which Examination Forms Did the Students Choose and Why?

When the students chose examination form during the experiment they still made a traditional choice. Nearly three fourths (72 %) chose to write a popular scientific article, which is the alternative offered that resembles a take-home examination the most. Only two students (2 %) preferred to formulate their own examination task.

When the students were asked why they chose the way they did, 67 % stated that the chosen examination form suited them the best, while 15 % claimed that it was most appropriate to the task. Only 17 % stated that their choice of examination task was to make it feel like a challenge. The table below (Table 1) is a summary of student choices and motivations.

Table 1. A comparison of how the students thought and how they chose.

	Which examination form the students regarded as a challenge and/or a chance to develop	With which examination form the students thought it would be easier to reach a higher grade	Which examination form the students thought would be the fairest in relation to their knowledge and/or increase the chance of a fair assessment	Examination form chosen by the students in the course
	%	%	%	%
Popular scientific article	8	33	39	72
Oral on-campus presentation	42	15	17	10
Audiofile posted in a forum	50	4	3	8
Written examination	0	13	9	8
Individual suggestion	0	5	3	2
Don't know	0	30	29	0

Several student comments included criticism of written examinations, as illustrated by the following:

It doesn't feel as if it provides a fair assessment. It benefits those who have a good memory and know how to learn things by heart. Personally, I think there are a lot of students who learn for the test and then just forget everything.

On the question whether the students supposed that the course management preferred a certain examination form 76 % answered that they did not think so. The students were also asked whether they believed that teachers in general preferred assessing some specific examination form. Almost half of them (43 %) answered “written examination”, while no one answered “their own suggested examination”.

Students' Examination Requests

The students were encouraged to describe how they would like to be examined in the different modules in their training. More than half of the students (62 %) wanted to choose their own examination form. The main reasons were to encourage different learning styles, to increase motivation and participation as well as a fairer assessment of students with functional disabilities. This would also entail that those with functional disabilities might avoid feeling exceptionally treated or looked upon as privileged in the examination. About a fourth (26 %) wanted varied examination forms during their training although thinking that the teacher should decide which examination form was suitable for the specific course. Some of the students (12 %) wished to be examined continuously in dialogue with the teacher.

Discussion

The results of the study demonstrate that nearly half (47 %) of the students regard the examination primarily as a learning opportunity and as part of the learning process. Previous research has shown that students adapt their study strategy to the design of each individual course. This study confirms that students rank the learning value differently depending on what activities and examination forms occur in the course. If it is possible to create a course where learning and examination aim at a high learning value, students will adopt strategies oriented towards in-depth learning.

The different learning value the students participating in the study attributed to different types of exercises shows a tendency towards suggesting that greater interactivity in the exercises would have a positive impact on the learning value. If those examination forms which the students considered a challenge or chance for their development are taken into consideration, there is a strong indication that examination forms with low interaction – written examinations and popular scientific articles (in comparison with take-home examination) – would entail less student commitment, while oral presentations and interactive exercises would lead to higher commitment and orientation towards in-depth learning.

Students Expressed One Thing but Did Another

The study shows great discrepancy between what students expressed and what they actually did. When they were asked to assess learning values to different exercises/learning activities, “taking part in teacher-led group discussions” obtained the highest value, while “doing a take-home examination” received the second lowest value. Still, nearly three fourths (72 %) of the students chose to write a popular scientific article (which may be compared to a take-home examination), while only a few (10 %) chose oral presentation (comparable to a teacher-led group discussion). When the students were asked to describe to what extent they looked upon their chosen examination form as a “challenge”, only a handful (12 %) answered in the affirmative. Students consequently view examinations as an essential part of the learning process, but still choose the examination form to which they have attributed the lowest learning value. This might be linked to aspects like anxiety or stress at the thought of not being able to pass a more challenging examination form and instead going for a safer choice.

According to Maslow (1970), we strive towards self-realization. After receiving an understanding of the field we are interested in we take it to a new level where we can be creative and add new experience to the field. Before we reach as far as developing a field ourselves, certain basic conditions have to be met. First of all, these conditions include security or, perhaps more adequately, some degree of “peace and quiet”. If the field makes us feel uncertain, we are not ready to contribute anything to it. If we feel stress, we try to tread as safely as possible. We acquire a reproductive or strategic study orientation that mainly leads to short-term learning. A big final examination in a course may be experienced as a “Grand Finale”. For students who feel secure this might be an exciting finale or something quite undramatic, but for those feeling less secure it may instead appear as a threatening obstacle that needs to be overcome. The focus will then be on passing, instead of acquiring real learning and understanding of something at a deeper level. Could eligible examination methods then be a way of cultivating security? A great many comments made by students in the study suggest that this may be the case. On the other hand, there were students who claimed that the course management was best suited for deciding the most appropriate examination form.

Chickering & Gamson (1987) emphasize the value of giving expression to great expectations – in this case, letting the students choose their own examination form – and respecting students’ different abilities and learning styles. Wass et al (2003) points to the value of oral tests, and the students in the study ranked learning activities in that manner as best from a learning perspective. Still few of the students chose that kind of examination. One conclusion is that it might be a bad idea to allow students to choose how to be examined since in the study their choice did not agree with the way they thought they would learn best. It may also be the case that one of the chief tasks of the teacher is to try to motivate and facilitate for students to challenge themselves in their choices.

It should be highlighted that the students did not shy away from peer assessment. 80 % of the students chose examination forms involving written or oral opposition. According to Jokela & Karlsudd (2007; Karlsudd, 2010) this is an assessment form as effective as teacher assessment and may be designed to encourage in-depth learning (Li, Liu & Steckelberg, 2010).

An interesting question is how students react when they are made aware of the discrepancy between their views on different examination forms and the way they act according to their views, judging by this study. Will they make a “wiser and more correct” choice with a view to reinforce the learning process? It might be an idea to repeat the experiment with a new cohort of students and then present the result of the current study before these students make their choice of examination form. Perhaps by raising their awareness students will make a choice that agrees better with their views. Will students’ learning process, their results and their professional development benefit if they are forced to submit to certain examination forms, or is freedom of choice preferable?

Conclusions

It is stated in the study that students, in spite of their expressed insights into the possibilities of examinations, still do not always make the “right” choice. Therefore it is important that students are made aware of the positive effects of overcoming resistance and challenging themselves.

Educational research has shown (Marton, Hounsell & Entwistle, 1998; Ramsden, 1998, 2003) that the learner benefits from reflecting on her own learning processes, including the study strategies and the directions taken and learning objectives accepted. Still, from this study it seems as if there is no reflection on how the choice of “right” examination form would benefit

the individual teacher trainee's own learning, and that the opportunity to choose examination form is usually strategic in other aspects. Even those educational theories on which the teacher trainees may be examined on this very occasion may turn into isolated theories which the students forget to apply to themselves.

Reflection thus needs to permeate every single element in a course, so that it will not be forgotten or discarded for some kind of "practical survival strategies" with simple solutions that may entail less beneficial learning processes. It is a matter for teachers to set aside more time to underline the importance played by the examination in the learning process, to make visible their interest in students' development and to challenge students to reflect on their choices.

References

- Anderson, L. W., Krathwohl, D. R., (Eds.) (2001). *A Taxonomy for Learning, Teaching, and Assessing: A Revision of Bloom's Taxonomy of Educational Objectives*. New York: Longman
- Biggs, J. B., Collis, K. (1982). *Evaluating the Quality of Learning: The SOLO Taxonomy*. New York, Academic Press.
- Chickering, W. A., & Gamson, F. Z. (1987). Seven principles for good practice in undergraduate education. *American Association of Higher Education Bulletin*, 39 (7), 2-6.
- Dysthe, O. (2007). How a reform affects writing in higher education. *Studies in Higher Education*, 32 (2), 237-252.
- Jokela, P., & Karlsudd, P. (2007). Thesis web dialogue. *European Journal of Open Distance and E-Learning*, 1 (1).
- Karlsudd, P. (2010). Assessing essays to develop writing. *Problems of Education in the 21st Century*, 25 (25), 67-76.
- Li, L., Liu, X., & Steckelberg, A. L. (2010). Assessor or assessee: How student learning improves by giving and receiving peer feedback. *British Journal of Educational Technology*, 41 (3), 525-536.
- Light, D., Cox, R. (2001). *Learning & Teaching in Higher Education*. Gateshead: Paul Chapman Publishing.
- Marton, F., Dahlgren, L. O., Svensson, L., Säljö, R. (1999). *Inläring och omvärldsuppfattning*. Värnamo: Prisma.
- Marton, F., Hounsell, D., Entwistle, N. (1998). *Hur vi lär*: Kristianstad: Rabén Prisma. Second edition.
- Maslow, A. H. (1970). *Motivation and Personality*. New York: Harper & Row.
- Merrill, M. D., & Gilbert, C. G. (2008). Effective peer interaction in a problem-centered instructional strategy. *Distance Education*, 29 (2), 199-207.
- Nevid, J. S., & Mahon, K. (2009). Methods and techniques. Master quizzing as a signaling device to cue attention to lecture material. *Teaching of Psychology*, 36 (1), 29-32.
- Pittaway, L., Hannon, P., Gibb, A., Thompson, J. (2009). Assessment practice in enterprise education. *International Journal of Entrepreneurial Behaviour & Research*, 15 (1), 71-93.
- Ramsden, P. (1998). Inläringens sammanhang. In Marton, F., Hounsell, D. & Entwistle, N. (Eds.). *Hur vi lär*. Kristianstad: Rabén & Sjögren.
- Ramsden, P. (2003). *Learning to Teach in Higher Education*. Oxon: RoutledgeFarmer.
- Wass, V., Wakeford, R., Neighbour, R., Van der Vleuten, C. (2003). Achieving acceptable reliability in oral examinations: an analysis of the Royal College of General Practitioners membership examination's oral component. *Medical Education*, 37 (2), 126-131.

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