

How to Use the Potential of Learning Outcomes in IS Courses – Listening to the Voices of Students

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Abstract

This study illustrates how students view the role and meaning of learning outcomes. We have conducted a focus group with students who attended the course "Enterprise (ERP) systems and organizing" within an IS bachelor program in Sweden. Our study shows that students, as a course's main stakeholder group, regard the multi-functionality of learning outcomes. What they still miss is knowledge about the role and meaning of learning outcomes as control instruments for the entire educational process. When teachers formulate learning outcomes in a transparent and clear way, students will be able to use them actively prior to courses, during courses and after courses. In order to better use the potential of learning outcomes in practice, we need to find ways of not just formulating learning outcomes in a standardized manner, but also practicing them in our courses. When this learning outcome model has been accepted and applied in teachers' course activities, not just their syllabus writing, we have possibilities to use the full potential of learning outcomes.

Keywords: learning outcomes, Bologna Process, students, focus group

1. INTRODUCTION

Course objectives are central in the Higher Education Ordinances (Ministry of Education and Science, 1993) where objectives for the existing degrees in Swedish higher education are formulated. In 2002, the learning outcomes perspective was explicitly introduced as part of a review of the Swedish qualifications framework of higher education. This work was conducted by the Ministry of Education and Research within the so called Bologna Process. The purpose of the Bologna Process (or Bologna Accords) is to unite the European Higher Education Area by making academic degree standards and quality assurance standards more comparable and compatible within the

European Union (EU) (Lisbon Recognition Convention, 1997). In this review of the Swedish qualifications framework of higher education, degree structures, levels, grades, and credit points were examined. In line with the Bologna Process, the Swedish qualification framework intends to promote mobility and employability, increase transparency and clarity in higher education, as well as improve lifelong learning (Ministry of Education and Research, 2004). The framework contains a structure of learning outcomes regarding three levels; knowledge, understanding and competence, which can be related to the taxonomy of learning objectives within education (Bloom, Englehart, Furst, Hill, & Krathwohl, 1956). Depending on which exam

the student intends to take (bachelor, master or doctoral degree) the learning outcomes of course differ, but the three levels are applied in all higher education syllabuses in Sweden (Gallavara, Hreinsson, Kajaste, Lindesjö, Sølvehjelm, Sørskår, & Sedigh Zadeh, 2008).

Since the launch of the Bologna Process in 1997, we have seen huge and fast changes in higher education within the EU focusing on re-formulation of learning outcomes in syllabuses as well as principles for how to examine these learning outcomes in courses. See e.g. the European Association for Quality Assurance in Higher Education (ENQA) for more details on the Bologna Process (www.enqa.eu). Much emphasis has been put on design of learning outcomes; i.e., how to formulate appropriate learning outcomes for a specific course. Since the Bologna Process was introduced during a short period of time in Sweden, the formulation of learning outcomes often became rather intensive and instrumental. Almost all higher education syllabuses were re-written and re-formulated according to the new standards during the year 2007. In most cases, limited time was allocated to re-design of courses in relation to the introduced levels of knowledge, understanding and competence. Instead, the re-design was often performed as a translation of old course objectives into learning outcomes formulations, instrumentally using pre-defined verbs suggested in different university policies. As a consequence, the potential of learning outcomes were not taking full advantage of.

Information systems (IS) education is no exception from this rather intensive and instrumental way of action. We have now followed our new syllabuses and learning outcomes in courses for a couple of years. Time has come to examine the expected benefits of learning outcomes in more detail. In order to do this we need to examine learning outcomes in a wider perspective, though. We have to broaden the scope and view learning outcomes in a context; cf. Reichert and Tauch (2003) for a contextual evaluation of the Bologna Process on an EU level. Our point of departure is the Swedish higher educational system, which is influenced by the EU model. Assessment of learning outcomes is, however, no solely a European issue; cf. e.g. Abraham (2006) who discusses these matters from an U.S. perspective.

The purpose of the paper is to explore how we can develop usable learning outcomes in IS education by focusing on the most important

stakeholder group in higher education; the students. The students are highly affected by learning outcomes, but seldom involved in the process of formulating them. The research question to answer is "How do students view the role and meaning of learning outcomes?". This question is focused in order to explore what IS educators can learn from this in order to improve their use of learning outcomes in practice. In the paper we study how students who attended a course named "Enterprise systems and organizing" apprehended this course's learning outcomes.

After this introduction, the paper has the following disposition: In Section Two we discuss the multi-functionality of learning outcomes. In Section Three our research approach is described, followed by the empirical case. Empirical findings from the case are analyzed in Section Four and further discussed in Section Five. The paper is concluded in Section Six where we also make some remarks on limitations and further research.

2. THE MULTI-FUNCTIONALITY OF LEARNING OUTCOMES

As stated in the introduction, the higher educational systems within the EU have converged into a joint model where learning outcomes are visible throughout a course's life cycle. The content and objectives of a course are formulated in learning outcomes, which are then assessed and examined at the end of the course. This way of working is based on the notion of making learning outcomes, learning activities in the course, and examination aligned and in coherence with each other. This is often discussed as constructive alignment (Biggs, 2003).

A keystone in the Bologna Process (European Association for Quality Assurance in Higher Education, 2005) is the development and publication of explicit, intentional learning outcomes. Defining and using the learning outcomes (e.g., in a syllabus) can then be the starting point for a course's life cycle; from course design to course evaluation. Learning outcomes are statements expressing what the student is expected to know, understand, and/or be able to demonstrate after having completed a learning process (European Commission, 2004).

A main challenge for IS education in order to attract motivated and high performing stu-

dents and remain competitive among employers, is how to develop learning outcomes that meet several demands. The learning outcomes have several functions; this multi-functionality is also highlighted by Gallavara et al. (2008). Maybe the most obvious function is to illustrate what the course is about and guarantee that all parts of a course are examined. Another, sometimes more invisible, function of learning outcomes is that they are used in order to market a course to presumptive students; i.e., the learning outcomes serve as a content declaration that should make students interested in taking the course. Students' future employability has been much emphasized during the EU Bologna Process (Fallows & Steven, 2000). Thus, the learning outcomes are also used by previous students in order to describe their competence to future employers. Furthermore, these employers might use the learning outcomes in order to compare students, educational programs, and institutions. Another outspoken goal with learning outcomes is that they should be internationally comparable and, thus, support student mobility (Papatsiba, 2006).

In theory, this multi-functionality of learning outcomes might be appealing, but it also implies a challenge. When a learning outcome should be used by several actors (e.g., teachers, students, and employers) in order to fulfill different goals, the formulation of learning outcomes becomes a very important and challenging task. Simultaneously, the process of implementing this model in Sweden, which is the national context we study, has been performed in an urgent way, as the new learning outcomes model was implemented in all Swedish university courses at the same time. When implementing the model it was often apprehended as more important to develop *any* learning outcomes than to make sure to develop *usable* learning outcomes. To put it a bit blunt, many faculty members were more focused on the fact that new syllabuses were written (the activity) than what was written in them (the content) regarding learning outcomes.

3. RESEARCH APPROACH

The findings we report in this paper stem from a research project conducted in collaboration between four IS educational programs at different universities in Sweden. The project called "A learning outcome model – reflected assessment" was performed from 2007 to

2009. Learning outcomes as part of the Bologna Process have been a major point of departure for the project. When applying learning outcomes in higher education courses the need for assessment of student achievements versus learning outcomes is highlighted. Learning outcomes have a great potential to improve quality in higher education, but several challenges are present (as introduced above). In order to be able to perform reflected assessment of student achievements, a set of structured guidelines has been developed in the present project. The set of guidelines is related to learning outcomes from different perspectives, such as employability, student learning outcomes, research and subject – as well as university unique profiles. This paper describes a subset of the project outcome.

This paper is based on qualitative empirical data from a focus group (Morgan, 1998) conducted with students who attended the course "Enterprise systems and organizing". The course is taken during the third year of the Bachelor Program in IS at the studied university. The focus group was designed with the purpose to generate empirical data focusing on how these students apprehended the learning outcomes of the present course. Focus groups have a long history as a data generation method in the marketing field (Fern, 2001). The method has in recent years become an instrument in the public society to hear "the people's voice".

Focus groups are also used as a data generation method by researchers, mainly in social sciences (Vaughn, Schumm, & Sinagub, 1996). Morgan (1998) describes focus groups as group interviews. A moderator guides the group when discussing decided issues by posing questions that have been formulated in advance. A focus group is always created with a specific purpose; there is a purpose that the focus group is supposed to meet. Focus groups are a feasible approach to gather knowledge and enquiries from different individuals (ibid.). Different persons possess pieces of knowledge about a certain matter and when these pieces are brought together and discussed the total amount of knowledge normally increases. When introducing and managing a focus group it is important to be able to declare what the arrangement is supposed to produce.

A focus group normally consists of six to eight persons (Morgan, 1998), but other authors mention different preferable sizes of the group,

ranging from four to twelve persons depending on the purpose of the group. It is an intricate task to choose and recruit persons for the focus group. The participants should be chosen so that they potentially can contribute to the discussion. It can be difficult to convince persons to join the focus group, they may demand some benefit in return. It is also important to consider which type of empirical data the focus group discussions will result in as well as how the data can and will be used, analyzed and spread afterwards. Empirical data must, thus, be presented in a clear way and be adjusted to the target group. (ibid.)

The moderator who manages the focus group must facilitate that everyone participates actively and that no single actor dominates the group. The atmosphere should be open and friendly in order to encourage everybody to contribute to the discussion and the purpose of the focus group. The moderator is not supposed to insert his or her own opinions into the discussion (Krueger, 1998). Instead, the moderator should pose generative questions and issues to the group. Morgan (1998) argues that the focus group can be either structured or unstructured. There are advantages with groups of people knowing each other as well as with groups of strangers. Individual actors view issues from different perspectives and the focus group is, thus, an appropriate method to use in order to understand how different views are constructed and expressed (Kitzinger & Barbour, 1999) as well as provide a profound discussion in a certain matter. It was in this sense the focus group was used as data generation method in the present project.

Focusing the Course "Enterprise Systems and Organizing"

The course in focus is part of the third year of the Bachelor Program in IS. This course was also given prior to the Bologna Process which implies that there were two versions of the syllabus present; one with "old" course objectives (which was the concept used in syllabuses at that time) and one with "learning outcomes" according to the new EU syllabus structure. The students who participated in the focus group had taken the course at two different years; one sub-group had taken the old version and one sub-group had taken the new one. This made it possible to compare similarities and differences between these two course occasions, specially focusing on how the students apprehended the meaning and function

of learning outcomes versus the old course objectives.

The choice of studying this particular course was made because the course had changed very little (regarding overall course design, content, literature, etc.) except from how the learning outcomes were formulated. The course was in that sense an example of the rapid and instrumental re-design of syllabuses during the Bologna Process, discussed above. This means that all participating students had taken the same course regarding content (above), although the two versions of the learning outcomes/course objectives were formulated and focused in different ways.

The new learning outcomes for the course are:

- Understand, describe, evaluate and reflect on IT-systems, application areas and systems interacting with organization and organizing
- Understand, describe and discuss the analysis, acquisition, adaptation, implementation and impacts of enterprise systems
- Critically examine, discuss problems and consider the enterprise systems as an IT-artifact in organizational contexts
- Understand and apply an enterprise system

The old course objectives were:

- Acquire knowledge of IT-systems (ERP systems) architecture, applications and systems interaction, organization and organizing
- Acquire skills in analysis, acquisition, adaptation, implementation and impact of ERP systems
- Critically examine and problemize ERP systems as an IT artifact in organizational contexts
- The course will provide both conceptual and practical images of the area

The focus group was led by two moderators. Seven university students participated and they had all taken the same course, which was a conscious choice since Morgan (1998) argues that the participants' background should be as homogenous as possible. The students were recruited from the two classes which had taken the course the current year and the year before. They were selected based on their interest to participate. Two students had taken the old version of the course and five students had taken the new version. The focus groups were introduced by the moderators who presented

the purpose of the focus group and gave some background information about the research project and learning outcomes model in general. The discussion was then focused on the studied course and its learning outcomes. The discussion was taped and documented by one of the moderators. After the focus group meeting was ended the findings were analyzed in a qualitative way (Walsham, 2006) and reported in a synthesized form. Finally, the findings were presented and discussed in the project group as input to the emergent learning outcomes framework.

The focus group was divided into two phases. During the first phase (1) the meanings and functions of learning outcomes were discussed in general terms. During the second phase (2) the chosen course was focused. In both these phases the following issues were discussed:

- Problems and solutions concerning learning outcomes
- Possible meanings and functions of learning outcomes
- The syllabus as carrier of learning outcomes
- The students apprehension of learning outcomes (do students read them, do learning outcomes make any difference in the course, do students use them in any way, etc.)
- Learning outcomes for whom (teachers, students, others)

4. EMPIRICAL FINDINGS

According to the discussion in the focus group, it was obvious that the students found the new learning outcomes much more tangible compared to the old course objectives. This was mainly explained by the fact that each learning outcome is formulated based on a verb; e.g., define, describe, explain, apply, understand, etc. The earlier course objectives could be interpreted in many different ways, but the learning outcomes were regarded as more unambiguous. At the same time, the students commented that the learning outcomes were formulated in a very advanced (condensed or even abstract) way which often made them difficult to fully understand. In best cases, the teacher explains the meaning at the first lecture, but the students asked why the learning outcomes cannot be formulated in a more comprehensible way from the beginning.

An important goal with the Bologna Process is that every formulated learning outcome is ex-

plicitly examined (graded) during the course. This clear relation between learning outcomes and examination was seen as something positive and much clearer in the new course version. When talking about learning outcomes in general terms, the students stressed that there are huge differences between how courses in different subjects and departments at the university focus learning outcomes. There seems to be a strict standardization regarding how to formulate learning outcomes but fewer consensus in how to use them during the course. The students also noticed that in courses given by a very committed teacher the students focused more on learning outcomes than in courses with a less engaged teacher. This could be explained by the fact that engaged teachers use the learning outcomes more explicitly in the course, relating to them in their lectures and discussing how the outcomes will be assessed in the examination (the grading process). In these cases the teachers seem to use learning outcomes to structure and guide the course design in a more outspoken way. Regarding the importance of the teacher, the student also mentioned that the same learning outcomes can be focused and emphasized differently by a more practically oriented teacher compared to a theoretically oriented one. Each teacher does his or her own prioritization even if the learning outcomes are the same.

When searching for information about future courses in the Bachelor Program in IS the learning outcomes did not seem to be of much interest for the students. They did not look into different courses' learning outcomes in order to find out more about coming courses. Instead, they apprehended information published at the university's course website and information from previous students as most important in these cases. When choosing single-subject courses to take in parallel with the bachelor program learning outcomes in these courses were investigated with more interest, though.

A fact that the students were critical towards was that in many courses the learning outcomes were focused during the first lecture, but not mentioned later in the course. This situation made them assume that teachers talked about learning outcomes in the course introduction because they were obliged to do that, but then continue giving the course in the same way as they had done before. In such cases the idea of learning outcomes as guidelines for the entire course, from course design

via course performance to examination and assessment, is neglected.

The importance of learning outcomes for employability was also discussed during the focus group. The students highly acknowledged the importance of learning outcomes formulation in this case. Students who are aware of the learning outcomes in courses they have taken are able to use these formulations in order to market their knowledge and competence in job interviews. On the other hand, the students did not find the present formulations feasible to show to a presumptive employer as they are expressed in a "too academic" language and style. In order to be really useful in such contexts the formulations need to be adjusted to a practice target group, the students argued.

It was obvious that the students did not know how learning outcomes in a new course are formulated. The course design process was totally unknown to them, including how and by who decisions about courses were made. Most students thought that it was the teacher alone who wrote the syllabus and formulated learning outcomes. This made it clear that the administrative process of organization and change regarding courses in, e.g., an educational program is concealed from the students. The role of the syllabus including the learning outcomes as a contract (a formal agreement), on one hand, between the university and the teacher and, on the other hand, between the teacher and the student was not evident to the students. This implies that they regarded the syllabus as "yet another" document with course information and nothing else.

Regarding the focused course the students reflected that many of the learning outcomes were on the knowledge level, but few were on the understanding and competence levels (cf. Bloom et al.'s, 1956). On the positive side, the students regarded the learning outcomes in this course as more concrete than in many other courses. They found it easy to relate the learning outcomes to course activities.

When viewing the learning outcomes after having taken the course, one reflection was that the course could have had a more extensive content given these learning outcomes. There did not seem to be a perfect match between the content declared in the learning outcomes and in the practical realization (the interpreted content) of the course, though. One of the learning outcomes mentioned that Enterprise systems should be applied during

the course, but there were no compulsory laboratory activities or other practical moments in the course (focusing on organized use of an enterprise system). A free (open) enterprise system was, instead, offered by the university to the student to explore by him- or herself.

This kind of course was regarded as especially important to market to future employers as Enterprise system competence is often requested in job advertisements. Unfortunately, the mismatch between the learning outcomes and the course performance made the students argue that the learning outcomes could not be constructively used in contacts with presumptive employers, in this case, as the outcomes were not totally fulfilled.

5. DISCUSSION

By listening to the voices of an IS course's most important stakeholder group; the students, we have discovered some apprehensions regarding learning outcomes that IS teachers should be aware of.

First of all, the syllabus with its learning outcomes plays an important role as a contract, which guides the course activities and examination. This role is, however, not known to the students. Instead, they apprehend the syllabus as any kind of course information document. Neither the process of formulating learning outcomes nor the status of learning outcomes as control instruments are explicit to students. This makes the possibilities and limitations of learning outcomes too vague to students and their possibilities to use the full potential of the learning outcomes are, thus, decreased.

The formulation of learning outcomes was generally seen as improved compared to the old versions of course objectives, thanks to the verb formulations. On the other hand, the learning outcomes were often formulated in a way that was apprehended as too theoretical (e.g., abstract) and complicated. Even if students were able to understand the formulations, they did not think that future employers would do that. The role of learning outcomes as carrier of the student's competence is, in this case, decreased.

The function of learning outcomes as carrier of course information prior to a course was not regarded as important to students in the IS bachelor program. If they, on the other hand, would take a course outside the program, the learning outcomes were seen as more impor-

tant. A reason for this could be that the IS bachelor program has other sources of information that are easier to access than the learning outcomes. In cases when such sources are not available, the students turn to learning outcomes instead.

It also became apparent that even though there has been a huge focus on learning outcomes in higher education in Sweden for a couple of years now, the consensus tends to be on formulation of learning outcomes. In contrast, the application of learning outcomes in courses seems to be very teacher dependent. Teachers make prioritizations of the learning outcomes' importance in a course and might emphasize certain aspects on behalf of other issues. Students can meet teachers in one course who do not seem to acknowledge learning outcomes after having mentioned them in the course introduction. In another course the teacher might use the learning outcomes as a structure for the entire course from planning to examination and assessment. Having standardized and regulated learning outcome formulation without any practical consensus about how to apply learning outcomes in courses, of course leaves the students in an uncertain situation.

Learning outcomes make courses more transparent than they were before. It is for example easier for students to observe unbalance between learning outcomes on the three levels of knowledge, understanding, and competence. This makes it easier for students to question course content, find gaps in the learning outcomes as well as learning outcomes that have not been fulfilled in a course. Learning outcomes give students possibilities to increase their influence and raise demands on their education. This is well in line with the striving to empower students and regard them as clients or even customers to the universities. In order to achieve this, the learning outcome model must of course be known to students.

6. CONCLUSIONS

This study has tried to answer the research question "How do students view the meaning of learning outcomes?". We have discovered students' apprehensions of learning outcomes of an Enterprise system course within an IS bachelor program. Our findings make us draw some conclusions about how IS educators can improve the use of learning outcomes in practice.

First of all, in Sweden the transition to the EU model of learning outcomes has succeeded regarding formulation of learning outcomes in all syllabuses in higher education. Now it is time to expand the focus and also emphasize the application of learning outcomes in courses. We have illustrated viewpoints from the student perspective in this paper. In order to achieve a better use of learning outcomes in practice, we must find ways of not just formulating learning outcomes in a standardized manner, but also practicing them in our courses. When this learning outcome model has been accepted and applied in teachers' course activities, not just their syllabus writing, we have possibilities to take full advantage of learning outcomes.

Our study shows that students, as a course's the main stakeholder group, regard the multifunctionality of learning outcomes. What they still miss is knowledge about the role and meaning of learning outcomes as control instruments for the entire educational process. When teachers formulate learning outcomes in a transparent and clear way, students will be able to use them both prior to courses, during courses and after courses. This is the next challenge to meet for higher educational institutions.

In this paper we have used focus groups to make the voices of students heard. Focus groups have been used in many other fields before (cf. e.g. Axelsson & Melin, 2007), but applied in the educational domain we find that focus groups help us emphasize "client value" in terms of student opinions of the learning outcomes' potential.

Limitations and Further Research

This study has focused the student perspective on learning outcomes by conducting a focus group with students studying in the IS bachelor program at a Swedish university. The results are of course so far limited and should be viewed as an illustration of the studied phenomenon rather than any general results. We would encourage further studies of the student group in order to broaden the understanding of this stakeholder's apprehensions. Focus groups are an instrument that we find promising in this aspect, but data could also be generated from larger groups by, e.g., online questionnaires.

More research is needed on how to take next step towards active use of learning outcomes

in all phases of a course. This is a question of how to motivate educators in this shift and to find good examples of benefits possible to achieve. In order to do this the student perspective is important to focus, even though we of course need to strive for acknowledging other stakeholder groups as well.

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