Enhancing Learning Experiences in Outcome-based Higher Education: A Step towards Student Centered Learning

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Abstract—Bologna process has influenced enhancing student-centered learning in Estonian higher education since 2009, but there is no information about what helps or hinders students to achieve learning outcomes and how quality of student-centered learning might be improved. The purpose of this study is to analyze two questions from outcome-based course evaluation questionnaire which is used in Estonian Entrepreneurship University of Applied Sciences. In this qualitative research, 384 students from 22 different courses described what helped and hindered them to achieve learning outcomes. The analysis showed that the aspects that hinder students to achieve learning outcomes are mostly personal: time management, family and personal matters, motivation and non-academic activities. The results indicate that students' learning is commonly supported by school, where teacher, teaching and characteristics of teaching methods help mostly to achieve learning outcomes, also learning material, practical assignments and independent study was brought up as one of the key elements.

Keywords—Learning outcomes, learning quality, student-centered learning

I. INTRODUCTION

STUDENT-CENTERED learning in outcome-based education has become one of the key elements for improving the sustainable quality of today's higher education. The mission of higher education according to the Leuven Communiqué of Bologna process also certifies that improving the quality of learning and teaching is important by prioritizing student-centered learning [1]. In accordance to outcome-based approach student-centered learning is influencing the way how learning is viewed, results evaluated and feedback asked. Educational improvement is achieved through the assessment and feedback that supports learning [2].

Most of the earlier understandings of learning conceptions have been focusing on teacher and teaching [3], [4], but in the new outcome based paradigm it is on the opposite. Instead of focusing on teachers and their teaching the priority is now through outcome-based education on students learning [5], [6], [7], [8]. For measuring how much the students actually learn and understand the subject, teachers may need to contribute to the learning of their students and focus on the actual process of learning and learning outcomes by supporting its consistency, rather than the transfer of information [6], [9], [10], [11].

The concept of student-centered learning lays in treating the student as an individual, where students' learning and understanding of the material is important. The shift moves from measuring teachers success in teaching according to how much the syllabus is covered to measuring teachers success by how much the students actually learn [6], [9].

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By Finks` (2008) taxonomy of significant learning it is important that students are able to learn how to learn, use skills like problem solving, critical thinking etc and integrate learning with the knowledge and aspects of personal, social, civic or professional life. Students also should be able to understand and remember the foundational knowledge and developing new interests, values based in relation to a subject or aspect of life [12]. According to Biggs (1999) the essence of student focused strategies lays on a change of conceptions in students understanding, especially on what students do to achieve an understanding of what is important. In this concept the teachers` role is to be students` partner and facilitator [6], [9]. For modifying one understanding to another, teachers might need new skills and knowledge to be open and let others to change and grow [13]. According to researchers learning is a complex process, which is influenced by different factors that help or hinder students learning and how they achieve the outcomes set by teachers. Ramsden and Entwistle (1981) describe learning through the aspects of learning environment, learning resources, support services and teaching [14]. Ruohoniemi and Lindblom-Ylänne (2009) add that most of the factors enhancing learning are associated with teaching practices, like planning of teaching process, including curriculum design and course overload. They also noticed that students rarely commented on their own actions in describing their learning process [15]. Biggs (1999) and Kek & Huijser (2011) acknowledged that students` learning is influenced directly by their personal and family matters [10], [16]. The factors of teacher personality and teaching, also learning environment is commonly mentioned by all the authors.

Baeten et al. (2010) summarize and describe that students' approaches to learning are influenced by three main categories of factors. First, the contextual factors: characteristics of teaching methods, assessment, feedback, teacher, amount of cognitive scaffolding, subject/content/discipline, class/group characteristics, school/institution characteristics, duration of intervention, time spent on student-centered teaching. Secondly, the perceived contextual factors are: workload, teaching, supportiveness versus control, clarity of goals, independent study, learning activities, usefulness of the course material, relevance to professional practice, assessment.

Thirdly, the student factors that include approaches to learning, age, gender, intellectual abilities and level of cognitive development, personality and social style, previous work/academic/learning/educational experiences, academic skills and coping strategies, self direction in learning, learning habits, preferences for teaching methods, emotions (motivation, enjoyment in learning, uncertainty/low self-esteem/anxiety/failure), emphasis on non-academic activities [17].

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All these aspects need to be taken into account while analyzing learning as a holistic process [9], [13]. The knowledge from students' feedback about different factors that affect learning gives a possibility to improve the learning quality.

Today outcome–based approach is almost fully implemented in Estonian higher education, but there is not enough information how the new paradigm has been implemented so far and how teachers might enhance student-centered learning and improve the quality of outcome-based higher education. In the report of OECD (2010) bottom-up initiatives are encouraged from the faculty members. That includes increasing teaching roles for setting supportive teaching and learning environments and reflection in the learning processes, but still the institutions of higher education are struggling to understand the casual link between their engagement in teaching and the quality of learning outcomes. Although quality teaching is one of the main influential factors of learning outcomes it is found difficult to isolate the significant factors that most affect students to achieve learning outcomes [18]. The research literature suggests that students' feedback provides useful information for evaluating the process of learning and the quality of higher education [19], [20], [21].

Recent research in Estonia also confirms that neither students nor teachers are fully satisfied with the information gathered from course evaluations, because it does not help them to improve their student-centered learning [22]. To do that effectively and for assuring the quality of learning it might be important to find out which aspects affect students learning the most.

The aim of this qualitative study is to get deeper understanding about what are the aspects that help and hinder students to achieve learning outcomes? The results from this research might help teachers to understand which factors in learning and achieving learning outcomes affect students the most. The knowledge from students' responses might give an idea what are the possible improvements for making overall learning process more effective through supporting student-centered learning.

II. METHODS

The data from two open ended self assessment questions from outcome-based course evaluation questionnaire used in Estonian Entrepreneurship University of Applied Sciences was analyzed with the content analyze to see if these gave additional information about which aspects help and hinder students to achieve learning outcomes.

A. Participants

The participants of the present study were 384 Estonian Entrepreneurship University of Applied Sciences students from all years of bachelor level. The students represented several disciplines like arts, information technology, entrepreneurship and management. The feedback forms were filled by the students at the end of the courses. The data about 22 different courses was gathered in the spring and autumn semester of 2011.

B. Instrument

Current research is one part of a bigger research. The data for this research was gathered with outcome-based course evaluation questionnaire used in Estonian Entrepreneurship University of Applied Sciences, which included 13 different questions, both qualitative and quantitative. In this research the author analyzed the results of two questions from the questionnaire. This measurement instrument was chosen, because it is one of the first attempts in Estonian higher education, where students are asked whether they achieved learning outcomes and what helped or hindered them in their learning processes.

C. Procedure

For measuring student-centered learning in relation to learning outcomes course evaluation instrument was adapted and modified. The course evaluation questionnaire was distributed to students on paper form at the end of the course by the teacher or by the researcher. The data was gathered in the spring and autumn semester of 2011 from the students of Estonian Entrepreneurship University of Applied Sciences. Students were instructed before filling the outcome-based course evaluation and notified that all information is confidential.

III. RESULTS

The data from students' responses to open ended questions of outcome-based course evaluation was analyzed with the Microsoft Office program Excel 2007. The total response rate to outcome-based course evaluations issued to students (n=384) was 82%. The response rate to the question about the aspects that hinder students to achieve learning outcomes was 63% and to the question what helps students to achieve learning outcomes was 78%.

The data from student's responses to the aspects that helped and hindered to achieve the learning outcomes was analyzed and a number of categories and subcategories were formed. The frequency of students' comments in each subcategory was calculated. The results to both questions were divided according to the responses content into two main categories. The first category was students' personal aspects like time management, personal and family matters, previous work/academic or learning experiences etc. The second category was aspects influenced by the school that help or hinder the achievement of learning outcomes like teacher, teaching, learning materials etc.

Table I shows the main categories of the aspects that help students to achieve learning outcomes. According to students evaluations the aspects influenced by school like teacher (personality, charisma, knowledge, professionalism), teaching (performance, clarity) and characteristics of teaching methods (practical assignments, used methods, discussions, illustrative examples) were the most helpful factors (mentioned 115 times) in achieving learning outcomes. Practical assignments and independent study (mentioned 67 times), also good learning materials (mentioned 61 times) were described by students as important factors in achieving the intended learning outcomes that are influenced by school.

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Students' personal aspects that help them to achieve the intended learning outcomes were previous work/academic/learning experiences and interest of the subject (mentioned 50 times) also participating in the lectures and study (mentioned 32 times) (see Table I).

TABLE I
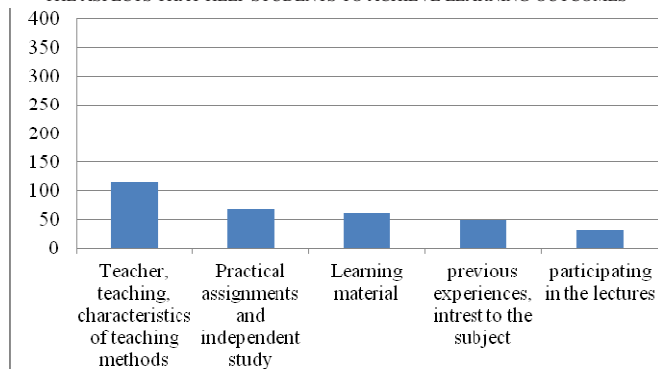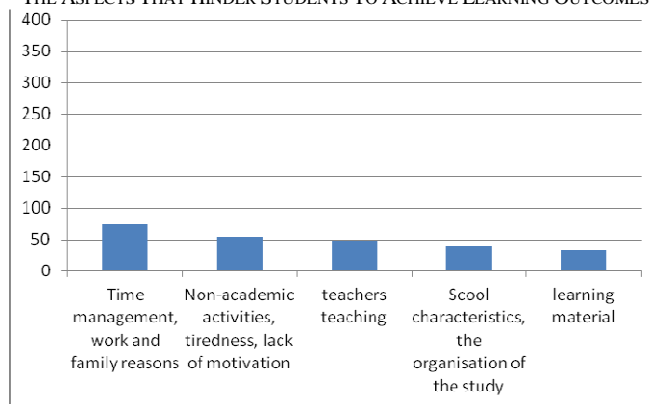THE ASPECTS THAT HELP STUDENTS TO ACHIEVE LEARNING OUTCOMES

Table II shows the main categories of the aspects that hinder students to achieve learning outcomes. According to students evaluations the aspects influenced by students' personal life were mentioned the most as factors that hinder students to achieve the intended learning outcomes. Students' personal obstacles for achieving learning outcomes were time management, work and family reasons (how to combine these aspects and succeed in learning if there is little time) (mentioned 74 times), also non academic activities (different stirrers), tiredness (too much workload) and lack of motivation (mentioned 55 times). Teachers teaching (tempo, methods, amount of materials and time planned for studying) (mentioned 47 times), school characteristics, the organisation of the study (and planning of the learning process) (mentioned 40 times) and learning materials (mentioned 33 times) were named as the aspects that hindered students to achieve the intended learning outcomes from the perspective of school (see Table II).

TABLE II
THE ASPECTS THAT HINDER STUDENTS TO ACHIEVE LEARNING OUTCOMES

In summary, aspects influenced by the school were proportionally mentioned as the main factors that help students to achieve learning outcomes and personal matters were the reasons why students did not achieve the intended learning outcomes. Students referred in their answers to two open ended questions commonly that their learning process was influenced by teacher teaching, students' motivation and learning materials.

IV. CONCLUSION

The aim of this study was to understand according to students evaluations which factors help and hinder them to achieve learning outcomes in outcome-based education. There are many different factors that help and hinder students learning and achieving the intended learning outcomes. The content analysis of students' answers revealed that the most often mentioned obstacles in achieving learning outcomes were students' personal aspects like time management, work and family reasons, also non-academic activities, tiredness and lack of motivation. These results are also found by Biggs (1999) and Kek & Huijser (2011), who acknowledged in their research that students` learning is influenced directly by their personal and family matters [10], [16]. This complicates the situation in higher education, where the main goal is to improve the learning quality, because students' personal aspects are causes that the school system or teachers cannot change even if they offer the best support and other options for students. Estonian Entrepreneurship University of Applied Sciences has struggled with this situation for years, because if students do not have the right skills for managing time, they will easily drop out of the school. For improving students generic skills like time management and learning how to learn the school has developed and added a compulsorily course to students curricula's. This will hopefully support students learning and achieving of learning outcomes. The results whether the generic skills course for students is effective or not is not known jet, but research will be done on that field.

Other factors which were categorized as an influence by school that hindered students to achieve the intended learning outcomes can be improved for ensuring the learning quality. These factors are similar to previous research by Ramsden & Entwistle (1981) and Ruohoniemi & Lindblom-Ylänne (2009) where learning materials, teachers teaching, school characteristics and the organisation of the study was also described as aspects that hinder learning. Surprisingly learning environment was not mentioned as an aspect that might hinder the achievement of learning outcomes, although other research has found it as an important factor [10], [14], [16], [17]. The reasons for this matter need further research.

Students' evaluations in the present study confirmed the results from earlier research [10], [15], [16], [17] that the teacher, teaching practices, characteristics of teaching methods, practical assignments, independent study and learning materials are the most helpful factors in achieving learning outcomes. It is clear that without the support of teachers and the school it is difficult for students to achieve the intended learning outcomes [18], therefore the results are expected.

Even more, these results place an important role for teachers and their teaching. If students learning processes are influenced on how teachers support their learning and help to create student-centered learning environments, they should have accurate information on what help or hinder students to achieve the learning outcomes. Outcome-based education is still new in Estonian higher education, therefore the information what should be improved and how, is necessary to schools and teachers in order to fulfil the goal of improving learning quality.

Interestingly only a rather small group of the students mentioned that personal aspects like motivation (interest to the subject) and previous experiences on the studied field helped them in achieving learning outcomes. These results are on contrary to the question on what aspects hindered students to achieve learning outcomes, where the first reasons mentioned were personal aspects. Also the response rate to that question was bigger than to the question where students had to explain the reasons that hindered their learning. The reasons for why it is so need further research. One possible reason might be that it is easier for the students to notice what kind of aspects actually help them to learn, instead of acknowledging what actually hindered them in the learning process. The results from open ended questions give input for researchers to improve the aspects evaluated by students in the outcome-based course evaluation.

Students brought up commonly to both questions that their learning was influenced by their motivation, teachers teaching and learning materials. This shows that these are the aspects that might influence the most students learning and they should be put into the attention of teachers, students and schools for improving the learning quality.

A limitation of this study might lay on the students' knowledge about what learning outcomes are, because learning outcomes are new in Estonian higher education. Students might not be used to the changes and therefore they may understand and evaluate the questions differently. Also students might be used with the teacher-centered approach and therefore they notice and evaluate more teachers teaching than their own learning process and actions.

For further research it might be interesting to see whether there are differences in students' answers according to gender, age, studied speciality or form of study. The previous research has shown that these might be also important factors that should be taken into account in improving the learning quality [17], [18].

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