

# THE ASSESSMENT OF STUDIES' EFFECTIVENESS AS A REFLECTION OF ACHIEVED COMPETENCIES IN EDUCATIONAL CONTEXT AT HIGHER UNIVERSITY EDUCATION SETTINGS USING ACTION RESEARCH

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## **Abstract**

The aim of the study was to investigate the peculiarities of periodic assessment of students' achievements as a factor influencing the effectiveness of studies from the point of view of acquired competencies. In this study action research was applied, and group discussion method was used. The study was performed at higher university education settings. The results of the presented research revealed positive influence of the periodic assessment of the students' achievements on the effectiveness of studies.

*Keywords: assessment, studies, effectiveness, action research, competencies, education.*

## **Introduction**

The phenomenon of the effectiveness of studies has recently become a hot issue due to its close connection to achieved competences and the quality of studies. This topic was widely discussed and investigated (Hartig et al, 2008; AdomBent & Hoffmann, 2013; Roegiers, 2016). The effectiveness of studies can be defined as a feature of the learning process at the institution of higher education indicating the achievement of intended learning outcomes. Researchers have been interested in various aspects of the effectiveness of studies in recent decades; as a result, their ideas have enriched the evolving concept of the effectiveness of studies. Considerable attention was paid to justify the learning outcomes as the results of the study process (Fitz-Gibbon, 1996; Corrie, 2004; McGee, 2004), to reveal the factors influencing learning outcomes (Marton & Säljö, 1976; Biggs, 2001; Petty, 2004), and to discover the problems of the assessment of study results and learning outcomes (Boyd & Lawson, 2004; Flutter & Rudduck, 2004; Biggs & Tang, 2007; Petty & Green, 2007; Hussey & Smith, 2008). The concept of study effectiveness in educational context interacts with the concept of achieved competences. The learning outcomes can be described as a student's acquired competencies

during the studies. In other words, the higher the degree of studies' effectiveness is, the better the competences acquired by the students are.

In scientific literature much attention is paid to such determinant of the effectiveness of studies as students' approach to learning. The impact of this factor on study outcomes is analyzed by Marton & Saljö (1976), Petty (2004), Biggs (2001) and others. Investigating the study process Marton & Saljö (1976), Entwistle & Ramsden (1983) found that the students have different approach to learning, which could be divided into deep and surface. According to Marton & Saljö (1976), the students, who have deep approach to learning, try to give a sense to new knowledge, acquired in the study process, and to connect it with already existing knowledge and personal experience. Consequently, their effectiveness of studies is better. On the other hand, the students, who have surface approach to learning, seek only to replicate information acquired in the study process. Consequently, their effectiveness of studies is lower. A deep approach to learning is associated with better and of higher quality results, while a surface approach is associated with worse results. According to Crick (2007), the students with deep approach to learning are aware of the responsibility for their own learning, accept new challenges, critically evaluate new information, ask questions, and therefore the quality of their study results is better. Thus, students' deep approach to learning shows the higher degree of the effectiveness of studies, while a surface approach indicates the lower degree. Consequently, while analyzing the students' approach to learning it is possible to evaluate the effectiveness of studies reliably.

Hussey & Smith (2008) argumentatively proved that the effectiveness of studies could not be assessed reliably by marks. They pointed out that the marks obtained in tests, projects and other tasks depend on many factors (e.g. assessment methods, study course features). Therefore, the marks could be used to assess the effectiveness of studies only with great care. Petty & Green (2007) supported these ideas, stating that the marks, e.g., exam marks, cannot be considered a sufficient basis for assessing the effectiveness of studies.

Some authors stated that while assessing the effectiveness of studies it is necessary to base on the students' opinion and to make clear whether their expectations with respect to studies are satisfied (Darnton & Darnton, 1997; Evans & Simons, 2000). Researchers investigating the effectiveness of studies (Fitz-Gibbon & Kochan, 2000; Boyd & Lawson, 2004) noted that students' opinion about their effectiveness of studies is not less important than certain specific facts (e.g., marks). For example, Fitz-Gibbon and Kochan (2000) interviewed over a thousand of students and proved that students' opinion can serve as a reliable basis to evaluate their effectiveness of studies. Similar results were obtained in another study by other researchers (Petty & Green, 2007). The aforementioned arguments create preconditions to state that the effectiveness of studies can be reliably evaluated by students' subjective responses about their studies.

While assessing the effectiveness of studies it is also important to take into account teachers' opinion about the subject, the study phase, the achievement of the study program's objectives. The teacher's opinion about the intermediate effectiveness of studies is very important as it can be used to adjust the study process, and to direct students' activities in the required way (Biggs, 2001). According to Hussey and Smith (2008), only teacher can decide whether the students have achieved the tasks that were planned by the teacher while organizing the study process. During the assessment of the effectiveness of studies, the question "how well" desired results were achieved (McGee, 2004) has to be answered. Nowadays higher schools widely use tests and other similar assessment methods determining

only knowledge, and it is difficult to evaluate how well students are able to use that knowledge and social competencies. If only knowledge obtained during the studies is being assessed, students do not strive to develop the other competencies – skills and attitudes. Consequently, study effectiveness can be assessed using the subjective statements of students about their understanding of the effectiveness of their studies.

The object of the research was the periodic assessment of students' achievements as a factor of the effectiveness of studies. The aim of the study was to investigate the peculiarities of the periodic assessment of student achievements as a factor influencing effectiveness of studies from the point of view of acquired competencies.

### **Research methodology**

In order to reveal and prove the influence of the periodic assessment of students' achievements on studies' effectiveness, action research was applied, and group discussion method was used. In this qualitative research the higher school was selected in a convenient sampling. The state university in Lithuania was chosen, which agreed to cooperate in the conduct of the study. The bachelor study programmes' students participated in the study.

*Action research* is a special research strategy integrating practical activities and research. Such integration aims not only to understand and interpret reality, but also to improve it (Denscombe, 2003; Vaughan & Burnaford, 2016; Watkins et al., 2016; Davis et al., 2018; Hardy et al. 2018; Laudonia et al., 2018). For action research the cooperation among all participants is of importance. Action research was used to reveal and practically examine the influence of the periodic assessment of students' achievements and its components on the effectiveness of bachelor studies and to obtain new characteristics of the phenomenon. The content analysis method was used as a method of data analysis. Afterwards the description and interpretation of research results were performed.

*Focus group* (Denscombe, 2003) interview method was used to collect data for qualitative exploratory research in order to discover and identify the practical aspects of the periodic assessment of students' achievements during action research, and to reveal the characteristics of periodic assessment influencing the effectiveness of bachelor studies at higher university settings. The researchers themselves performed the role of the focus group moderators. The purposeful maximum variation cases sampling method was used for the selection of the informants. The intention of the research was to gain the maximum diversity of the informants: in terms of gender and study programmes. In total, the study involved 78 students: 24 first year, 24 second year, 18 third year, and 12 fourth year, and five lecturers. In the preparation stage for the discussion, the questions oriented to discover the opinion of the participants regarding the influence of the periodic assessment on the effectiveness of studies were prepared.

Validity and reliability were ensured during the collection of the data. Two researchers knowing the research issue very well performed the investigation in order to ensure the credibility of the research. The transferability was ensured by describing the procedures of the collecting data in detail. The validity of the research was ensured by collecting data using the method of group discussions by students and teachers. Teachers' data by group discussion method were collected during two semesters (during the entire study) each month. Group sessions were recorded using a voice recorder and subsequently transcribed. During the two semesters ten groups of lecturers and six groups of students used group discussions. During the action research the answer to the problem question was posed: *How, why, and under what*

*conditions the periodic assessment of students' achievements influences the effectiveness of studies?*

The study was organized in accordance with the planning-action-observation-reflection cycle. This action research was conducted in two cycles, corresponding to two semesters. The theoretical aspects of the periodic assessment of student achievements, the main components (feedback and self-assessment), and the outline of the implementation of the study were presented for lecturers. In addition, the roles of the participants of the study were described. The authors of the study organized an action research, prepared an outline of periodic assessment, provided methodological assistance, collected data, organized group discussions, summarized and interpreted the results. The lecturers (practitioners) carried out a research action, implemented developed methodology, applied interventions, interpreted the data, collected data, interpreted the data during self-evaluation and reflection during the group discussion, and provided data. Students (78 persons) participated in the action research and provided data.

The study was conducted by volunteer teachers. They taught their students for two semesters and, following the procedures, put into practice the main components of the assessment. During the intervention the lecturers used reflection, organized group discussions, and received the information on the impact of intervention from students. Together with the lecturers a research schedule was prepared, indicating the scheduled activities and the deadlines for their implementation. In line with the timetable, the intervention took place at the action stage.

During the autumn semester (first cycle), together with the lecturers, it was decided to test the methods for evaluating the achievements of students that were identified during a qualitative study (group discussion). It was agreed to use certain evaluation methods at the same time, and discuss the peculiarities of their application at a later meeting. However, during the periodic assessment of students' achievements in the autumn semester it was found that there was a lack of systematicity. Therefore, it was decided during the spring semester to prepare better for the action research, to prepare additional documents that will be presented to the students: the description of the evaluation system, description of each intermediate evaluation, and intermediate tasks evaluation sheets.

During the spring semester (second cycle) all the participants-lecturers decided to clarify the evaluation methods, to prepare a description of the evaluation system for their subject according to the prepared example, applying theoretical achievements and the possibilities of modern technologies (internet, e-development). When preparing the description of the evaluation system for assessing the achievements of the subject, the lecturers decided to improve them. They decided to add various assessment methods, to determine the criteria for each assessment method, to indicate the weight of each criterion. It was suggested to pay attention to the feedback during the contact hours and during the consultation, and to e-mail possibilities; to implement students' self-evaluation of their achievements (by e-mail, in oral, written form), and to implement the assessment of the achievements of peers. A *Description of the Assessment System* (all names and weights of the intermediate assessment methods) prepared by the lecturers has been agreed to be presented for the students during the first lecture. The lecturers decided to prepare a description of each intermediate task later, indicating the purpose of the subject or topic (few topics), the method of assessment, the aim of the task, the competencies to be acquired, the terms of reporting, the content of the task, and the evaluation criteria with their weights according to the prepared form. With the action research we tried to improve the current practice of the

periodic assessment of student achievements. The lecturers tested different assessment methods, discussed the peculiarities of their application, and the influence on the effectiveness of studies.

While selecting the assessment methods special attention was paid to the criteria associated with the goals of the study subject and with the foreseen competencies to be acquired. In addition, it was emphasized that it is important to determine the weight of the criteria when evaluating the task with a mark. In organizing the periodic assessment of students' achievements, the components of the periodic assessment of students' achievements were emphasized: the feedback, involvement of peers' assessment, self-assessment possibility. It was agreed to prepare for students such tasks so that it would be possible to test as many as possible competences acquired by the student using various assessment methods. This was evidenced by the lecturers' statements: "... tests are more oriented towards knowledge testing. Maybe it would be more rational to apply tests to identify the knowledge during the examination, but to allocate more tasks during the semester to help the development of other competences (as students prepare for the exam in three to four days). On the one hand, it is logical that they summarize knowledge and read material before the exam – thus, it is more appropriate to choose the test for exam, but all practical tasks could be used for the acquisition of skills and competences. Not only knowledge is needed, but other competences too"; "Young people like diversity. More challenging tasks for them are like adrenaline, like a challenge to encourage them to look for, to check their own possibilities. Various competences are being improved. For instance, when you are working on bachelor thesis, you should search for information. Different tasks help to improve competencies, and you learn about searching possibilities and scientific journals".

*Observation and Reflection stages.* Observation and reflection were conducted in both semesters. During each teachers' group discussion, the peculiarities of the periodic assessment of students' achievements were discussed. The teachers presented their observations, shared their positive experiences, and discussed problem questions. At the end of each action research cycle, during students' and teachers' group discussions the effectiveness of the applied methodology there was discussed, and the discussion on how to organize the periodic assessment of students' achievements in the future took place. During the preparations for teachers' and students' group discussions the questions for discussions were overseen. In addition, the following data were used: the description of each teaching subject with a timetable; the description of the students' achievements evaluation system along with the description of intermediate tasks and reporting; indicated periodicity; tasks of the final assessment of the subject; students' tasks kits.

The performance of the research complied with the principles of ethics: verbal agreements to take part in the research of all the participants of the focus groups were received, and the anonymity of the informants and the confidentiality of the data were ensured (all the real names of the informants were changed to pseudonyms). The bioethics committee approved the study.

## Results

### The impact of periodic assessment on the effectiveness of studies

The students, who participated in group discussions, paid attention to the positive influence of periodic assessment on the effectiveness of studies. The students obtained better knowledge and had no difficulties to prepare for the examinations. (*"We studied the subjects continuously during the semester, but not during the last week"*). Since the students were forced to read more, the lectures were more interesting, and they acquired better knowledge

(*“The lectures are more attractive when you need to perform a task. Even if you need to work more, many things seem to be more interesting”*). In addition, the students realized that the lecturers allocated more time to them, and now they feel more responsible for the study outcomes (*“I like when the teacher puts more efforts for us. Then you try to put more efforts as well”*).

During the group discussions the teachers who participated in the research activity confirmed the students’ comments about the increased effectiveness of studies. The lecturers noticed that the students were forced to work more independently; the students increased their activity during the lectures and interest in the subject of studies (*“All these methods encourage students to work more independently at home”*). The lecturers pointed out that the periodic assessment allowed to allocate more time for communication and interaction with the students, and to pay more attention to the problems of each student. This has strengthened the students’ motivation and contributed to the improvement of the effectiveness of studies (*“There was more space for individual approach”*; *“Individual attention has led to their motivation”*; *“I communicate with students more”*). Some lecturers commented that some students do not care about the outcome of the studies, and they just want to receive a diploma with minimal efforts.

Both the students and the teachers who participated in the action research observed that:

- Students were forced to work constantly, thus increasing their activity during lectures and interest in the subject of studies;
- Knowledge of the subject was more solid, as students not only studied more, but also consolidated their knowledge through practical tasks.
- Students’ motivation to study increased as teachers spent more time for each student.

During the group discussions the students noted that by systematic work during the whole semester it is easier to prepare for the exam; during the exam stress and *“nervous tension”* was reduced. It has decreased for two reasons: firstly, the accumulated assessments for all the work performed were important for the final evaluation. Therefore, if the student has been working for the entire semester, the risk of not passing the exam was reduced (*“When we came to pass the test, we felt good because we were ready for it; it was much easier, because we worked much during the whole semester”*). In addition, the lecturer monitored the students’ work during the whole semester; he knew the students better and created a positive opinion about them. The statements of the students participating in the study showed that it was easier to prepare for the exam with the help of periodic assessment.

The lecturers during the group discussions noticed that the students passed the examinations better when the periodic assessment of the students’ achievements was organized. This is evidenced by the following considerations: *“In fact, this exam was the best if compared to the three last years”*; *“This year actual groups of students were studying more effectively”*; *“Before there was no continuous and sustainable observation of the student, and it was difficult to decide when you should write just the final grade”*.

The group discussions revealed that successful periodic assessment increased students’ self-confidence. It was noticed by the teachers (*“...for example, N has greatly risen, previously she was not seen. Now she was assessed by a strong grade ten”*), and by the students (*“There were some intermediate assessments before the exam, there was a closer interaction with the teacher of this subject, and I go to the exam with more confidence”*; *“Semester tasks had a direct connection with the exam”*).

During group discussions it was found that the periodic assessment of students’ achievements did not have the same effect for all the students. It might be that these students

have a superficial approach to learning and the lack for deeper knowledge. Anyway, according to the students' notes and lecturers' comments, the effectiveness of most students' achievements have increased.

Some students and lecturers also had negative statements about periodic assessment. These students were dissatisfied with the changes in the periodic assessment system, their workload increased, as before they were used to study essentially during the session before the examinations. The lecturers noted the significant increase in their workload in preparing and verifying students' intermediate tasks (*"Preparing tasks requires a lot of time"*; *"Evaluation will take away a lot of time"*) and for feedback (*"The feedback has added work"*; *"Of course, it takes a lot of time"*; *"Actually, these conversations proved to be useful, but that takes time"*; *"A lot of time is needed to chat with everybody"*; *"From lecturers it requires intensity – to say comments right away, to notice mistakes"*).

In summary, it can be stated that using the periodic assessment of students' achievements students are more likely to prepare for the exam. According to the students, systematic work during the semester reduces the workload just before the exam and creates self-confidence. In addition, students feel safer (reduced tension) as there are already accumulated assessments that the teacher will take into account when writing the final assessment for the subject knowledge. Periodic assessment allows a teacher to more objectively evaluate the student's knowledge of a particular subject at the time of the exam, as the lecturers observed the students during the whole semester, they know them better, and students could demonstrate their knowledge not only during the exam.

#### **The peculiarities of periodic assessment**

The analysis of data obtained during the group discussions allowed revealing the additional peculiarities of the periodic assessment of the outcomes of students' achievements: the number of intermediate assignment tasks, the determination of evaluation criteria, the role of the participants in the educational process, assessing the achievements of students, and feedback.

**The number of intermediate assignment tasks.** During the action research the teachers of different subjects used a different number of intermediate assessments depending on the specifics of the subject, from three to ten. Students who participated in the action research do not have the same opinion about the optimal number of intermediate tasks in order to achieve the best effectiveness of studies. Several students suggested three tasks, while the others from five to seven. For several students ten intermediate tasks would still be not enough. They would love to have the opportunity to try all theoretical research methods into practice. Several students expressed the view that the number of intermediate assignment tasks depends on the difficulty of the task.

**Evaluation criteria of the tasks and their weights.** Both groups of lecturers and of students helped to reveal that it is important to specify not only evaluation criteria, which correspond to the goals of the study subject, but also to plan the weight of each criterion of evaluation in preparing the intermediate assignment task. Students, who receive a description of the intermediate assignment task, while performing their assignment draw attention to the most important goals of the study subject. In addition, that helps to avoid misunderstandings when deciding on the grade of the task. The group discussions showed that the evaluation criteria and their weights help the students to do better work, to pay attention to the most important parts of the assessments (according to the weight and criteria), to understand the mark, and to become involved in the evaluation process.

However, the lecturers noticed that the evaluation criteria should not be too many, as it complicates the assessment of students' works. During the students' group discussion the lecturers' insights were proved that for students a detailed description of the assessment of the intermediate task specifying specific assessment criteria should be provided. When the teacher presents the weight of each assessment criterion, it is clear to the student where to pay more attention when performing the assignment. Students understand why their achievements were assessed in one way or another way. Students are particularly positive about the opportunity to participate in estimating the evaluation criteria. For teachers a detailed description of the task is useful as they can more objectively evaluate students' knowledge and competencies, and to avoid conflicts with students because of the performed assignment. In addition, the discussion on the criteria with students influences the effectiveness of studies, as students better understand the goals of the subject and become active participants in the study process.

### **The role of participants in the educational process that assess students' achievements**

The group discussions revealed that the students prefer to be evaluated by teacher: *"It is the best, when teacher evaluates"*, *"Teacher is an unbiased person"*. The comments of the students about the peer-assessment revealed the positive sides of such assessment:

- Students learn how to perform assessment;
- Peers express constructive criticism that the teacher could not do.

It also revealed the disadvantages of peer-assessment: there was a lack of objective assessment; it was a personality assessment, not the assessment of knowledge and ability; there was a negative impact of the results on further relationship. The lecturers suggested that peer assessment could be applied, but only anonymous, and teacher still should do the final assessment.

Self-evaluation results, according to the students, do not always correspond to the teacher's assessments. The students' comments disclosed that students' self-evaluation depends on various factors:

- On the student's opinion about himself/herself. Sometimes students think too well about themselves, and therefore self-assess their work better (*"It is very difficult, I overestimated my work"*). Other students are devaluing themselves (*"I tried to write a lower grade for myself"*; *"I wrote for my work less, I considered myself too self-critical"*).
- On self-assessment skills (*"It was initially difficult to write these (self-assessment) comments"*; *"Need to learn to evaluate. It was initially very difficult"*).

The students positively evaluated the possibility of self-evaluation because they develop their own self-critical attitude towards their work, the objectivity of the assessment increases, and self-evaluation increases the efficiency of the studies. The lecturers in their comments confirm that self-evaluation is a useful component of the periodic assessment of students' achievements, because it increases the objectivity of the assessment, unburden the work of the teacher, and encourages students to reflect on their work. The lecturers noted that most of the students are not accustomed to self-evaluation. However, if you suggest performing self-evaluation to students more often, they will learn to manage it.

Thus, in the opinion of the students, their achievements were objectively assessed by the teacher, although peer-assessment and self-evaluation are also important. Peers express a lot of constructive criticism, which teachers do not say. The possibility to self-evaluate develops self-critical students' attitudes towards their work. Both students and lecturers noticed a major lack



of peer-assessment: it was the assessment of personalities, but not of knowledge. However, it can be assumed that peer-assessment is beneficial as it increases the role of students as participants of the educational process. During the group discussions it became clear that self-evaluation of students is rarely applied during the studies (therefore, the lack of self-assessment skills is evident). Anyway, it is useful for increasing the effectiveness of studies. Self-evaluation develops self-criticism of a student, and helps to understand the subject. Both lecturers and students believe that self-evaluation increases the objectivity of assessment. Therefore, it can be stated that the participation of all participants of the educational process (lecturers, peers and students) in assessing students' achievements increases the effectiveness of studies.

### Feedback

The data gathered from the students' group discussion allow providing insights on the importance of feedback in assessing students' achievements through periodic evaluation. Students noted that not only the teacher's comments are important to them, but also the rating with grade. During the students' group discussions it was found that rating with grades encourages students to perform tasks better. For example: *"If the grades were not written, then even if everything is done, nobody would put too much efforts"*; *"It would be done as 'copy paste', and the work would be done just formally"*; *"If there is no assessment, it does not matter how good it is done"*. The teachers confirm the students' opinion that rating is important, because students try to perform the task better (*"If you do not rate with grades, students would not put much efforts to perform the task"*). The students' comments revealed that it is important for them not only to get an assessment (grade), but also to get information about *"what was badly done"*, *"what was done well, what was wrong"*, *"where the error was"*, *"what to improve"*. This information helps students to improve, avoid mistakes while doing other work. The teachers confirmed the same insights (*"Fast feedback helps to see the progress"*, *"You can check their homework and tell each person individually what disadvantages were"*, *"After the discussion with the student on the task he/she has done, he/she has clear guidelines how to proceed"*).

The students stated that comprehensive feedback would require more work and time from the lecturer, but it is necessary for increasing the effectiveness of studies. In the opinion of the students, feedback should be applied immediately after the completion and evaluation of work, or at least during a week. Oral feedback is important, because usually it is more comprehensive. Feedback in written form is important too, because you can read it at any time and pay attention to it, and do not repeat the mistakes when doing another task (Table 1).

**Table 1.** Student opinions on feedback

<b>Comprehensive feedback</b>	- <i>The feedback was very useful. The comments of each work are almost on every page. What to write, what to do, what this whole assessment looks like.</i> - <i>He explained everything very thoroughly.</i>
<b>Extra work for teacher</b>	- <i>It is a huge extra work for the teacher.</i> - <i>He tried to explain to everybody. Really always spent a lot of time.</i>
<b>Oral and written forms</b>	- <i>Both in oral, and in written form.</i> - <i>Both forms are good. When in written form – you can read it later. When comments are oral, you can forget them. Sometimes you are stressed, and you do not remember oral feedback later.</i> - <i>In oral form a teacher could explain comprehensively, and in written form – to write the main issues.</i>

Continued Table 1

	<i>- I like oral form, because you can ask questions.</i> <i>- I prefer to get comments by e-mail.</i> <i>- Sometimes you are absent-minded, and do not “hear” everything what was said.</i>
<b>Time</b>	<i>- Better immediate feedback, the fresh one.</i> <i>- Immediately or after one week. But not too long, after one week.</i> <i>- Depends on a task. Sometimes you need immediate comments.</i>

During the group discussions the lecturers pointed out that oral feedback is more comprehensive and may take the form of a dialogue with the students, while feedback in written form is *“more coherent and includes the essential things”*. Thus, it can be said that feedback is an important part of the periodic assessment of students’ achievements. Both lecturers and students pointed out that the rating is important, but comments encourage improvement, help to avoid new mistakes, and greatly increases the effectiveness of studies. The lecturers and students have noticed that it is important to apply feedback both in written and in oral form, and preferably without delay.

### **Improvement of teachers’ professional competencies**

Teachers’ group discussions allowed not only to reveal the peculiarities of periodic assessment, but also to show the impact of action research on the improvement of teachers’ competencies. All the teachers confirmed this (*“It was not easy for teachers, but they had the opportunity to improve themselves”*; *“Action research helped me to improve my personal professionalism”*; *“I was forced to think more about tasks and assessment methods. How to assess better?”*; *“It was good to put more efforts for that”*). The teachers had an opportunity:

- To share experience: *“Our task now is to share experience, what works, and what does not... We improve our competencies. We share experience, what is easier to organize, and what is more difficult, what gives better impact to the study effectiveness, and what gives negative impact”*.
- When communicating, to learn from their own mistakes, and from the mistakes of colleagues: *“Now it is more clear how to work, because you learn from your own mistakes. During meetings we discussed different presented ideas. We could learn from practice, what works better. Now we know how our colleagues work”*.
- To try different methods of assessment: *“We tried what works, what does not”*.
- To improve the assessment system of students’ achievements in the subject taught: *“Initially, my biggest concern was how to make it so that if students were assessed for something, then they would not need to go through it at the exam again. Now they were assessed for the part of the course through practical tasks, and the other part will be checked during the exam”*.

Thus, it can be stated that all the lecturers who participated in the action research not only improved the experience of the periodic assessment of students’ achievements, but also improved their professional competences. It was possible because systematic meetings took place, the periodic assessment theory was discussed, various discussions on emerging problems were used, and the experience and examples of good practice were shared.

### Conclusions

The analysis of the opinions obtained during the interviews of focus groups formed of the staff and students about the impact of the periodic assessment of students' achievements on the effectiveness of studies has revealed that the achievements of all the participants of focus groups have been periodically assessed during the time of their studies. The focus groups' participants used various assessment methods: tests, open questions, homework, practical problem solving, essay, etc. The application of the periodic assessment of students' achievements strengthened the motivation of learning; therefore, it increased students' endeavour, as they put more efforts and energy into learning. The application of periodic assessment improved the study outcomes: the knowledge was deeper, the understanding of the subjects was better; the students showed better results in formal evaluation during examinations, as well as in applying the knowledge during the studies of other subjects and in practice.

The **action research** results have confirmed the statement that the periodic assessment of students' achievements improved the effectiveness of full-time studies, when using various assessment methods that induced the development of students' competences related to the aims of the study subjects, and by applying the components of periodic assessment: feedback, peer-assessment, and self-evaluation. The focus groups' (students and staff) interview data analysis supported the aforementioned statement and provided additional information about the increase in the effectiveness of studies. The following insights about the periodic assessment of students' achievements have been formulated:

- **The effectiveness of studies increased** because the students have been continuously involved in studies, which caused the increase in their active participation in lectures and the interest towards the study subject; the acquired knowledge was deeper because the students learnt more and increased their knowledge by doing practical tasks; the motivation towards studying increased as the staff spent more time on every student; the preparation for examinations and taking examinations became easier, because self-confidence was boosted, and stress and tension decreased.
- Negative opinions towards the periodic assessment of students' achievements during the action research were mostly related to the fact that in the previous years of their studies such an assessment system had not been implemented. Students were not used to studies in accordance with the requirements of such a system. The other negative opinions were related to the increased workload of both the students and the staff.
- When preparing intermediate assignment tasks it was important to point out not only the **assessment criteria** that corresponded to the aims of the study subject, but also the **weight** of every assessment **criterion**. When students received such a description of intermediate assignment task, they paid attention to the most important aims of the study subject; the grade evaluation of the assignment was clear for the students. The objectivity of staff evaluation of students' achievements increased.
- The staff evaluation of students' achievements was the most objective; however, **peer-assessment** and **self-evaluation** were of great significance as well. Peers provided constructive and critical remarks that lecturers were not able to notice due to various reasons. Self-evaluation developed a self-critical attitude towards students' work and deepened the understanding of the subject. Both peer-assessment and self-evaluation increased the objectivity of evaluation.
- **Feedback** was an important component of the periodic assessment of students' achievements. It should include both the evaluation by grade and the comment that induced

students' development and prevented the repetition of mistakes. It was significant to apply immediate feedback both in written and oral form.

- The staff, who participated in the action research, have not only improved the practice of the assessment of students' achievements, but also upgraded their own **professional competencies**. It was achieved due to the organisation of regular meetings-discussions during which the theory of periodic assessment was reviewed, arising problems were discussed, and the experience gained in the periodic assessment of students' achievements that increased the effectiveness of studies was shared.

### Discussion

The effectiveness of studies is defined as a feature of learning at a higher education institution, which indicates that the intended study outcomes have been achieved. While deciding on the effectiveness of studies, it is possible to rule not only in accordance with the marks (grades) received by the students, but also with paying attention to the students' attitudes towards learning, and to the subjective perception of students about the effectiveness of their activities (Combs, Gibson et al., 2008; Flutter & Rudduck, 2004; Gentilucci, 2004; Petty & Green, 2007).

Scientific literature points out that in the context of changing teaching/learning paradigms, the components of the formative periodic assessment are observed: feedback and self-evaluation, along with the elements of traditional periodic assessment (tests and grades), that do not encourage student learning, but, on the contrary, demotivate students and overload teachers with additional work (Leonard & Davey, 2001; Harlen & Deakin-Crick, 2003). The proper use of feedback and self-evaluation when organizing periodic assessment should significantly encourage students to learn, to apply a deep attitude to learning, and to develop a sense of responsibility for their learning outcomes and for the lifelong learning person's competencies (Black & William, 1998; Biggs & Tang, 2007).

The qualitative research conducted using group discussions method helped to determine the practical aspects of the periodic assessment of students' achievements. All the participants of the study were assessed periodically, using a variety of assessment methods (tests, open questions, problem solving, reports, etc.). After analyzing the opinions of teachers and students about the impact of the periodicity of assessment on the effectiveness of studies, it was found that periodic assessment works positively for the students. It strengthens students' motivation for learning, makes students more focused on learning, encourages to devote more time and efforts to learning, improves study outcomes, helps students in acquiring better knowledge, helps better understand acquired knowledge, influences to be more successful at examinations, and helps in applying knowledge to practice. The results of this study confirmed the findings of a number of other studies about the positive impact of the students' assessment periodicity on study outcomes and study effectiveness (Herman et al., 2006; Nicol & Macfarlane-Dick, 2006; Wolf, 2007).

During the action research the results obtained from the students and teachers group discussions confirmed that the periodic assessment of students' achievements using various assessment methods (which encourage students to develop various competences) and applying the components of periodic assessment (periodicity, feedback, and self-evaluation) could improve the effectiveness of studies. To sum up, it could be stated that during the study the statement that appropriate periodic assessment of students' achievements positively influences the performance of studies was confirmed. The influences of assessment frequency, feedback, peer-assessment, and self-evaluation on the effectiveness of studies were highlighted.

Every study has its strong sides and limitation. For this study, the fact that only full-time bachelor students participated in the action research could be considered as limitation. Thus, the results obtained can be generalized only to this Lithuanian students' population. However, the periodic assessment of students' achievements at the second stage of studies (master level) and in other form of studies, such as part-time, extramural studies, was not considered. That could be investigated in future research.

## References

- Adom̄bent, M., & Hoffmann, T. (2013). *The concept of competencies in the context of Education for Sustainable Development (ESD)*. ESD Expert Network. Retrieved from: <https://pdfs.semanticscholar.org/9ec3/118c915b2b11fd1017a1691398346f46af45.pdf>
- Biggs, J. (2001). *Teaching for Quality Learning at University*. Buckingham: SRHE & Open University Press.
- Biggs, J. B., & Tang, C. (2007). *Teaching for Quality Learning at University*. Berkshire: Mcgraw Hill, Society for Research into Higher Education & Open University Press.
- Boyd, B., & Lawson, J. (2004). Guidance matters: A pupil perspective on guidance within a Scottish Council. *Improving Schools*, 7(2), 171-184.
- Black, P., & Wiliam, D. (1998). Assessment and classroom learning. *Assessment in Education*, 5(1), 7-74.
- Combs, K. L., Gibson, S. K., Hays, J. M., Saly, J., & Wendt, J. T. (2008). Enhancing curriculum and delivery: linking assessment to learning objectives. *Assessment and Evaluation in Higher Education*, 33(1), 87-102.
- Corrie, C. (2004). *ISO 9000 Introduction and Support Package: Guidance on the Concept and Use of the Process Approach for management systems*. Retrieved from: [http://www.iso.org/iso/en/iso9000-14000/explore/transition/9001\\_2000approach.html?printable=true](http://www.iso.org/iso/en/iso9000-14000/explore/transition/9001_2000approach.html?printable=true) [accessed 2016-05-06]
- Crick, R. D. (2007). Learning how to learn: The dynamic assessment of learning power. *Curriculum Journal*, 18(2), 135-153.
- Darnton, G., & Darnton, M. (1997). *Business Process Analysis*. UK: Thomson-Learning.
- Denscombe, M. (2003). *The good research guide for small-scale social research projects*. Maidenhead, Philadelphia: Open University Press.
- Entwistle, N., & Ramsden, P. (1983). *Understanding Student Learning*. London: Groom Helm.
- Evans, B., & Simons, D. W. (2000). "Lean delivery road map – how to make it happen". *Logistics Focus*, 2 (9), 30-39.
- Fitz-Gibbon, T. C. (1996). *Monitoring education: indicators, quality and effectiveness*. School development series. London: Cassell.
- Flutter, J., & Rudduck, J. (2004). *Consulting pupils. What's in it for schools?* London: Routledge Falmer.
- Gentilucci, J. L. (2004). Improving school learning: The student perspective. *The Educational Forum*, 68(2), 133-143.
- Hardy, I., Rönnerman, K., & Edwards-Groves, C. (2008). Transforming Professional Learning: Educational Action Research in Practice. *European Educational Research Journal*, 17(3), 421-441.
- Harlen, W., & Deakin-Crick, R. (2003). Testing and motivation for learning. *Assessment in Education*, 10(2), 169-207.
- Hartig, E. K., Klieme, E., & Leutner, D. (eds) (2008). *Assessment of competencies in educational contexts*. Gottingem: Hogrefe & Huber Publishers.
- Herman, J. L., Osmundson, E., Ayala, C., Schneider, S., & Timms, M. (2006). *The Nature and Impact of Teachers' Formative Assessment Practices*. CSE Technical Report. Center for Assessment and Evaluation of Student Learning.
- Hussey, T., Smith, P. (2008). Learning outcomes: A conceptual analysis. *Teaching in Higher Education*, 13(1), 107-115.
- Davis, J., Clayton, C., & Broome, J. (2018). Thinking Like Researchers: Action Research and Its Impact on Novice Teachers' Thinking. *Educational Action Research*, 26(1), 59-74.
- Laudonia, I., Mamlok-Naaman, R., Abels, S., & Eilks, I. (2018). Action Research in Science Education – An Analytical Review of the Literature. *Educational Action Research*, 26 (3), 480-495.

- Leonard, M., & Davey, C. (2001). *Thoughts on the 11 Plus: a Research Report Examining Children's Experiences of the Transfer Test*. Belfast: Save the Children Fund.
- Marton, F., & Säljö, R. (1997). Approaches to learning. In: F. Marton, D. Hounsell, N. Entwistle (Eds.), *The experience of learning. Implications for teaching and studying in higher education* (pp. 39 – 59). Second edition. Edinburgh: Scottish Academic Press.
- McGee, P. (2004). *The productivity Model. A conceptual framework*. Retrieved from: <http://www.internettraining.com/Productivity/Productivity.htm> [accessed 2017-05-05].
- Nicol, D. J., & Macfarlane-Dick, D. (2006). Formative assessment and self-regulated learning: a model and seven principles of good feedback practice. *Studies in Higher Education*, 31(2), 199-218.
- Petty, G. (2004). *Teaching Today*. Cheltenham: Nelson Thornes Ltd.
- Petty, N. W., & Green, T. (2007). Measuring Educational Opportunity as Perceived by Students: A process indicator. *School Effectiveness and School Improvement*, 18 (1), 67–91.
- Roegiers, X. (2016). *A conceptual framework for competencies assessment*. United Nations Educational, Cultural and Scientific Organization, International Bureau of Education.
- Vaughan, M., & Burnaford, G. (2016). Action Research in Graduate Teacher Education: A Review of the Literature 2000-2015. *Educational Action Research*, 24 (2), 280-299.
- Watkins, K. E., Nicolaides, A., & Marsick, V. J. (2016). Emerging Action Research Traditions: Rigor in Practice. *International Journal of Adult Vocational Education and Technology*, 7 (3;7), 71-81.
- Wolf, P. J. (2007). Academic improvement through regular assessment. *Peabody Journal of Education*, 82(4), 690–702.

## THE ASSESSMENT OF STUDIES' EFFECTIVENESS AS A REFLECTION OF ACHIEVED COMPETENCIES IN EDUCATIONAL CONTEXT AT HIGHER UNIVERSITY EDUCATION SETTINGS USING ACTION RESEARCH

### Summary

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The aim of the study was to investigate the peculiarities of the periodic assessment of students' achievements as a factor influencing the effectiveness of studies from the point of view of acquired competencies. The study was performed at university environment, using action research and groups discussion method. The study results revealed the positive influence of the periodic assessment of the students' achievements on the effectiveness of studies. The data obtained during the interviews of focus groups formed of the staff and students have revealed that the achievements of all the participants of focus groups have been periodically assessed during the time of their studies. The focus groups participants used various assessment methods: tests, open questions, homework, practical problem solving, essay, etc. Application of the periodic assessment of students' achievements strengthened the motivation of learning; therefore, it increased students' endeavour, as they put more efforts and energy into learning. Application of periodic assessment improved the study outcomes: knowledge was deeper, the understanding of the subjects was better; students showed better results in formal evaluation during examinations, as well as in applying the knowledge during the studies of other subjects and in practice.

The action research results have confirmed the statement that the periodic assessment of students' achievements improved the effectiveness of full-time studies, when using various assessment methods that induced the development of students' competences related to the aims of the study subjects, and by applying the components of periodic assessment: feedback, peer-assessment, and self-evaluation.

The focus groups' (students and staff) interview data analysis supported the aforementioned statement and provided additional information about the increase in the effectiveness of studies. The following insights about the periodic assessment of student achievements have been formulated:

- The effectiveness of studies increased, because the students have been continuously involved in studies, which caused the increase in their active participation in lectures and the interest towards the study subject; the acquired knowledge was deeper because the students learnt more and increased their knowledge by doing practical tasks; the motivation towards studying increased as the staff spent more time on every student; the preparation for examinations and taking examinations became easier, because self-confidence was boosted, and stress and tension decreased.
- Negative opinions towards the periodic assessment of students' achievements during the action research were mostly related to the fact that in the previous years of their studies such an assessment system had not been implemented. Students were not used to studies in accordance with the requirements of such a system. The other negative opinions were related to the increased workload of both the students and the staff.
- When preparing intermediate assignment tasks, it was important to point out not only the assessment criteria that corresponded to the aims of the study subject, but also the weight of every assessment criterion. When students received such a description of intermediate assignment task, they paid attention to the most important aims of the study subject; the grade evaluation of the assignment was clear for the students. The objectivity of staff evaluation of students' achievements increased.
- The staff evaluation of student achievements was the most objective, however, peer-assessment and self-evaluation were of great significance as well. Peers provided constructive and critical remarks that lecturers were not able to notice due to various reasons. Self-evaluation developed a self-critical attitude towards students' work and deepened the understanding of the subject. Both peer-assessment and self-evaluation increased the objectivity of evaluation.
- Feedback was an important component of the periodic assessment of students' achievements. It should include both the evaluation by grade and the comment that induced students' development and prevented the repetition of mistakes. It was significant to apply immediate feedback both in written and oral form.
- The staff who participated in the action research have not only improved the practice of the assessment of students' achievements, but also upgraded their own **professional competencies**. It was achieved due to the organisation of regular meetings-discussions during which the theory of periodic assessment was reviewed, arising problems were discussed, and the experience gained in the periodic assessment of students' achievements that increased the effectiveness of studies was shared.

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