Research-Based Academic Studies: Promotion of the Quality of Learning Outcomes in Higher Education?

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Abstract
The present research has been conducted during the implementation of interuniversity Master’s programme “Educational treatment of diversity” (Spain, Latvia, Germany, Czech Republic) and it analyses the results gained at the University of Latvia in 2008-2009. The intentional cluster sample consisted of 21 student of the Master’s programme. The purpose of the paper is to analyze the effectiveness of opportunities of mastering the students’ research process which furthers the quality of learning outcomes and reveal the ways how research-based academic studies are provided in higher education. Sequential explorative qualitative and quantitative research – mixed methods design was conducted comprising the following stages: qualitative and quantitative data collection (“Profile access students” interview, data gained in chats and forums of e-platform, analysis of students’ work, and analysis of students’ competences self-assessment); primary and secondary data processing; data analysis and interpretation. Primary and secondary qualitative data processing was conducted by using AQUAD 6 and quantitative data processing by SPSS 16.0. The study revealed that the research-based academic studies allow students developing research-related capabilities by promoting critical scientific thinking, problem solving and using other analytic strategies and technical tools; enables students to place learning within a meaningful context, establishing environment that encourages, supports the research and emphasizes the synergy between research activity and learning in interdisciplinary research fields.

Key words: higher education, research-based academic studies, quality of learning outcomes, effectiveness of students’ research process, students’ research-related capabilities.

Introduction
One of the important challenges for universities and academic institutions today is their continuation as the backbone of society, providing the knowledge and educating young people for addressing complex global challenges. Within international framework, according to the Bologna process the orientation of master studies in Europe tends to reach substantial improvement of a new generation learners and offers opportunities for originality in idea development and use, including research. Purposefulness of the research in different rapidly changing and turbulent contexts reinforces the needs of all stakeholders – children, families, professionals and the policy audiences (Maslo & Kiegelman, 2008). It is evident that pedagogical research is complex in nature and none of the existing methodological approaches can be sufficient to discover its complexity. An actual
The task of contemporary universities is to narrow the gap between research and academic studies through a research-based approach to education by creating environment that includes vital integration of research activity and academic studies, new emphasis and support for innovations, better preparation of students as future professionals (Deem, 2007; Haverhals, 2007; Simons, 2006; Strazdins, 2007; Trant, 2007; Velez, 1996). Research-based studies with different modifications support a vision of a university that links research as a creative activity and education at every level (Allen, Duch, Groh, Watson, & White, 2004; Deignan, 2009; Finkle & Torp, 1995; Scripture, 2008; Savery, 2006). The integration of research and education could be promoted by creating of a research and education environment, developing education and research programmes that provide multi-disciplinary, team-driven, and system-oriented educational opportunities to university students (Tranter, 2007). Meaningful research and educational experiences should take place in environment in which research and education fit together naturally and reinforce each other and in which interaction takes place among all actors. This is called vertical integration and refers to programs in which research and education are coupled and in which students and academic staff are mutually supportive. One of such programmes is the interuniversity Master’s programme “Educational Treatment of Diversity” (Gento, 2007) developed and implemented by four European universities: National University of Distance Education (Spain), Ludwigsburg University of Education (Germany), Charles University in Prague (Czech Republic), and University of Latvia (Latvia).

The purpose of the paper is to analyze the effectiveness of opportunities of mastering the students’ research process which furthers the quality of learning outcomes and reveal the ways how research-based academic studies are provided in higher education.

The study was conducted in the University of Latvia since September 2008 until August 2009 being the continuation of the previous research conducted in 2007.

1. Theoretical framework

Theoretical basis of the study is formed by the conception of constructivistic learning (Holzkamp, 1983, 1993, 1995; Hofmeister, 1998), which is based on the notion that learners actively construct their own knowledge on the basis of prior experiences and knowledge (Sālbergs, 2003a, 2003b).

Systemic-constructivistic learning approach (Reich, 2005) analyses the individual’s perception of the reality, taking into consideration three dimensions: experience, self-feeling, and social recognition. These dimensions manifest how different people may be, including their desires and expectations, motivation and physical status, illnesses and physical symptoms, which explain the variety of learners’ expectations from the study process.

Systemic-constructivistic learning always is situated learning (Lamberigts & Dipenbroks, 2004). Situated learning is related to Vygotsky’s notion of learning through social interaction and the social construction of knowledge (Vygotsky, 1978). Network learning and Wenger's theory of situated learning within communities of practices (Lave & Wenger, 1991; Wenger, 1998) are social theories of learning which pull on important communitarian values (sharing knowledge, peer assessment, discussion-based learning, etc.) (Cousin & Deepwell, 2005:57). The communicative affordances of network learning provide new ways to adopt a social constructivist approach to teaching and learning. In these environments discussion, social interaction, collaboration, peer learning in group projects can be adopted as teaching and learning strategies (Keppell, Au, Ma, & Chan, 2006:456). Network learning strategies offer new opportunities for students to travel, to speak to many others and to explore many discourses through the online medium. The distinctiveness of network learning must rest with the facilitation of these opportunities. This can include participation in online communities, e-seminars, newsgroups, email lists, and weblogs. These forms of participation allow network learning to be more than enrolled and grade-defined students collaborating with each other on bounded tasks (Cousin & Deepwell, 2005:64).

Network learning needs to be designed in ways that accept and utilise learner variation. Such variation may be socio-cultural, it can feed the social energy of the group if it is encouraged to
circulate through mentoring, cultural information exchanges and so forth (Cousin & Deepwell, 2005:64). Given the strength of the rhetoric of cooperation, collaboration and community in the domain of network learning, it is worth reasserting that a pedagogy which claims to be democratic should contrast significantly with mainstream theory and practice in the importance it would attach to difference. In this way, a ‘virtual’ pedagogy of difference would be readily distinguishable from the individualistic and consensual discourses associated with student-centered or experiential approaches to learning (Hodgson & Reynolds, 2005:19).

Within the general field of teaching and learning in higher education, considerable investigation has now been undertaken of students working with each other and the ways in which it can be fostered in courses, mobilizing formal discourses of peer learning. However, there has been little theorization of this practice and little documentation of its application to research education (Boud & Lee, 2005:503). Peer learning may involve cooperation, communication, giving and receiving of peer feedback. In addition peer learning emphasizes the sharing of knowledge and ideas between students in a reciprocal partnership (Keppell, Au, Ma, & Chan, 2006:453). A major benefit of peer learning is that it promotes a transferable skill that students can apply to other courses and real-world professional settings. Peer learning also promotes lifelong learning and is linked to interpersonal and generic competences of teamwork that employers view highly (Tan, 2003).

Ron Griffith (Griffith, 2004:722) proposed four models of the links between teaching and research:

1) Teaching can be research-led in the sense that the curriculum is structured around subject content, and the content selected is directly based on the special research interests of teaching staff; teaching is based on a traditional information transmission model; the emphasis is laid on understanding research findings rather than research processes; little attempt is made to capture the two-way benefits of the research and teaching relationship.

2) Teaching can be research-orientated in the sense that the curriculum places emphasis as much on understanding the processes by which knowledge is produced in the field as on learning the codified knowledge that has been achieved; careful attention is given to the teaching of inquiry skills and on acquiring a research ethos; the research experiences of teaching staff are brought to bear in a more diffuse way.

3) Teaching can be research-based in the sense that the curriculum is largely designed around inquiry-based activities, rather than on the acquisition of subject content; the experiences of staff in the processes of inquiry are highly integrated into the student’s learning activities; the division of roles between teachers and student is minimized; the scope for two-way interactions between research and teaching is deliberately exploited.

4) Teaching can be research-informed in the sense that it draws consciously on systematic inquiry into the teaching and learning process itself.

The authors of the paper in the context of the present research consider that research-based academic studies are the academic studies which emphasize the synergy between research activity and learning, where students and academic staff are active processors of knowledge.

Research-based academic studies are the promoter of higher order learning outcomes (critical thinking) and transferable research-related capabilities expected of higher education. The position provided by the authors of the paper in the context of the present research is that capability is the power or ability to generate an outcome, where student’s research-related capability is the qualitative characteristic of being capable to generate an outcome in research-related activities with a special emphasis on practical professional responsibility.

Students need problem solving, critical thinking and learning-to-learn in their employment. Different authors give various aims of teaching thinking. According to Fisher (2003), the key function of education is to teach students to think critically, creatively and effectively (Fisher 2003:6). Teaching thinking enables students to utilize new information in new situations. Hamers & Overtoom (1997) assert that “It is precisely the capacity to think which enables students to acquire new knowledge and replace old knowledge by new, and it teaches them to recognize the value of gaining knowledge” (Hamers & Overtoom, 1997:23).
Moy (1999), in reviewing previous research on important workplace skills, concluded that generic thinking skills such as collecting, analyzing, and organizing information are essential for successful workplace performance. To develop problem solving, critical thinking and learning-to-learn as well as communication skills are essential for a good research. Problem-based learning is often considered to be a good way to help students acquire the necessary skills (Allen, Duch, Groh, Watson, & White, 2004; Deignan, 2009; Finkle & Torp, 1995; Scripture, 2008; Savery, 2006).

Systemic thinking of each individual is implemented in the integration of artistic, scientific and pragmatic thinking, at the same time living the life guided by feelings, reason and will (Broks, 2009:7). The governing of systemic thinking and the abilities of independent creative activity should become the major indicators of the new generation educators’ professional expertise or the quality (Broks, 2009:10-11). Scientific thinking is that mode of thinking – regarding any scientific subject, content, or problem – in which the thinker improves the quality of their thinking by taking charge of the structures inherent in thinking and imposing intellectual standards upon them (Paul & Elder, 2003:2).

Scientific thinking is self-directed, self-disciplined, self-monitored, and self-corrective. It presupposes assent to rigorous standards of excellence and mindful command of their use. It entails effective communication and problem solving abilities as well as a commitment to developing scientific skills, abilities, and dispositions (Paul & Elder, 2003:2). A well cultivated scientific thinker raises vital scientific questions and problems, formulating them clearly and precisely; gathers and assesses relevant scientific data and information, using abstract ideas to interpret them effectively; comes to well-reasoned scientific conclusions and solutions, testing them against relevant criteria and standards; thinks open mindedly within convergent systems of scientific thought, recognizing and assessing scientific assumptions, implications, and practical consequences; and communicates effectively with others in proposing solutions to complex scientific problems (Paul & Elder, 2003:2).

Conceptual thinking is a way of organizing and categorizing ideas in mind (Wilson, 1987 by Johnson & Carlson, 1992). The process of learning new concepts may be accomplished in a variety of ways. How one categorizes ideas when learning a new concept depends on past experiences and knowledge. Concept formation occurs when new categories are formed; in concept attainment, the concepts are already determined and the students must identify the characteristics of the concept (Joyce & Weil, 1990 by Johnson & Carlson, 1992).

Research is a process of learning in a community of research practice. The process of effective learning is closely related to the processes of effective research and professional practice. The academic studies offer students the chance to learn within a research and a professional practice environment stimulating creation of knowledge and innovation. Research-based approach to academic studies has a long history of advocating experience-based education. Psychological and educational research and theory suggest that by having students learn through the experience of solving problems, they can learn both content and thinking strategies (Finkle & Torp, 1995; Scripture, 2008; Strazdins, 2007; Savery, 2006). The types of learning activities in the research-based academic studies such as literature reviews, research proposals, research projects (individually or in groups), few or no lectures, unusual group and/or independent work, field work, tutorials and seminars promote students’ engaging in research. The research-based academic studies emphasize internal assessment, so the students gain experience in preparing research reports or papers, publishing research results in peer-reviewed journals, as well as presenting their work at conferences, delivering oral or poster presentations etc. (Tranter, 2007; Velez, 1996; Robertson & Bond, 2005; Boud & Lee, 2005).

The research involves knowledge in practical situations and using a knowledge base to derive solutions to new problems, rather the internalizing world of knowledge itself. In this study the organization of the research-based academic studies in interuniversity Master’s programme “Educational Treatment of Diversity” will be discussed in relevance to the quality of learning outcomes in higher education.
2. Research questions
1) How did research-based academic studies promote students’ learning outcomes?
2) Which opportunities were secured in research-based academic studies by the quality of students’ learning outcomes?
3) How to provide research-based academic studies in our Master’s programme in the future?
4) What advantages, difficulties and deficits exist in organization of opportunities of research-based academic studies?

3. Research methodology
3.1. Research design and methods
The research was conducted in the research process whose main idea was to elaborate the approach to accentuate socio-cultural variations of promoting research-based academic studies in higher education in Latvia’s context. Sequential explorative (Tashakkori & Teddlie, 2003) qualitative and quantitative research – mixed methods design was conducted (Taylor, 1973; Dockrell & Hamilton, 1983; Altheide & Johnson, 1994; Mayring, Huber, & Gurtler, 2007) comprising the following stages: qualitative and quantitative data collection; primary and secondary data processing; data analysis and interpretation. Theoretical and empirical methods of the research – data obtaining methods (“Profile access students” interview, analysis of students’ work, and analysis of students’ competences self-assessment) and qualitative and quantitative data processing methods were used.

The intentional cluster sample consisting of 21 student of the Master’s programme “Educational treatment of diversity” studying at the University of Latvia was composed. The present research was conducted in 2008-2009 during the implementation of interuniversity Master’s programme “Educational treatment of diversity” carried out in four universities: National University of Distance Education (Spain), Charles University in Prague (Czech Republic), University of Latvia (Latvia), Ludwigsburg University of Education (Germany).


Primary and secondary qualitative data processing: coding, metacoding, and interpretation of data gained in chats and forums of e-platform and students’ competences self-assessment was done by using AQUAD 6 software. The statements were coded according to obstacles determined in systemic-constructivist learning provided by Reich (Reich, 2005:21) (see Table 1).

Table 1
Dimensions of the systemic-constructivist learning (Reich, 2005)

<table>
<thead>
<tr>
<th>Experience</th>
<th>Self-feeling</th>
<th>Social recognition</th>
</tr>
</thead>
<tbody>
<tr>
<td>basic emotional experience</td>
<td>wishes</td>
<td>consequences of the surrounding world</td>
</tr>
<tr>
<td>a pattern of behavior developed in the motherland</td>
<td>desires</td>
<td>adopting concepts of roles</td>
</tr>
<tr>
<td>one's own biography as a construction</td>
<td>expectations</td>
<td>adopting social expectations</td>
</tr>
<tr>
<td>success experienced in learning</td>
<td>motivation</td>
<td>search of one’s ideals</td>
</tr>
<tr>
<td>specific world</td>
<td>physical status</td>
<td>positive and negative patterns</td>
</tr>
<tr>
<td>cultural peculiarities</td>
<td>illnesses</td>
<td>physical symptoms</td>
</tr>
</tbody>
</table>
Quantitative data processing was carried out by SPSS 16.0 data processing software. Primary and secondary quantitative data processing: 1) primary data analysis was done by implementing descriptive statistics (analysis of frequencies, central tendency, variability, skewness and kurtosis indicators); 2) secondary data processing was done taking into account the exact sample (Kolmogorov-Smirnov Z test, Spearman’s rank correlation coefficient and Pearson correlation), etc.

3.2. The sample of the research
The sample selecting 21 students (from 23) of the interuniversity Master’s programme “Educational Treatment of Diversity” studying at the University of Latvia was composed. Initially there were 23 students at the programme, but only 21 matriculation questionnaires were received back. Those 21 students created the sample.

Information about the students was gained during matriculation interview and analyzing the results of the questionnaires the students had to fill in when applying for the programme. The sample consisted of 17 female and 4 male students which is a typical representation to the proportion of male and female teachers in schools of Latvia. The age of the sample was from 21 to 47. Most of the students (n=8) had a Bachelor’s degree, one student had a Master’s degree in psychology; others had indicated different fields of education – sociology, English philology, arts, visual arts, etc. Regarding their occupation the following fields were mentioned: teaching, voluntary social work, training coordinator, psychology, advertising industry; 6 students had not answered the question about their occupation. Only 14.29% of the students had previous experience in distance studies which might cause some problems in the studies.

62.5% of the students had obtained information about the Master’s programme from the Internet, while 31.25% of the students had learnt about it directly from the University home page. As only 14.29% of the students had previous experience in e-learning, they thought they could have certain problems in the studies due to the character of the study process organization. Most of the students (n=19) had certain expectations from the programme which were exposed in the answer to the question why they chose this programme. The answers included the use of ICT in the studies, the programme’s connection with their present/future work, an opportunity to combine studies with work, getting experience of other countries and languages, the wish to learn languages, interest in pedagogy. The students’ self-assessment of competences revealed that they evaluated their communicative competence higher than other competences. Communicative competence was followed by technology competence. Students were of the opinion that in the Master’s programme they would be able to develop certain research-related capabilities, which, after their evaluation, were ranged as follows:

1) Capability to practice at inclusion context 52.38%
2) Capability to organization 42.86%
3) Capability to innovation 42.86%
4) Capability to use methodology 42.86%
5) Capability to evaluation 42.86%
6) Ability to collaboration 38.10%
7) Capability to planning 38.10%
8) Capability to design programmes, projects 23.81%

Research-based academic studies are a good way to help students acquire the necessary above-mentioned capabilities. However, because of different reasons (personal, financial) the number of the students studied decreased to 15 as only they studied all the 9 courses and participated in the further research.

4. Description of the Master’s programme
The Interuniversity Master’s Programme “Educational Treatment of Diversity” is implemented in four European universities: Universidad Nacional de Educación a Distancia (National University of Distance Education) – UNED (Madrid, Spain), Charles University in Prague (Prague, Czech
Republic). University of Latvia (Riga, Latvia) and Ludwigsburg University on Education (Reutlingen, Germany). The successful graduates will be awarded a joint Master’s degree of educational sciences in pedagogy.

According to new tendencies in University education and following the European Community regulations, the Master's programme will particularly focus on “student’s learning” more than on professor’s teaching: such student’s learning will consider how s/he learns and what s/he should learn, not only individually, but also in a group. As a consequence, the credit system (ECTS) is based on student’s performance, particularly estimated in terms of competences. By using such competences, students will use and create knowledge to generate solutions in diverse projects or situations: generic, basic and specific competences. The main focus to be observed in tutoring students is the contribution to clarify the students’ needs, to help them solve their doubts and problems and to orientate them to obtain the necessary successful result (Gento, 2007).

To attain the fundamental aim of the Master’s programme the involved Universities will try, in cooperation with students, professors, tutors and all their personnel, to work for attaining specific objectives in the research field: to promote theoretical and practical knowledge of adequate research in the educational treatment of diversity, in order to clarify contents involved in the general concept of educational treatment of diversity, to discover real situations of educational treatment of diversity, to contrast effective ways of acting in this aspect, and to put forward alternatives to improve situations, resources and strategic ways of acting (Gento, 2007). The competences of the Master’s graduates correspond to the requirements of EQF lifelong learning level 7.

In order to successfully achieve the objectives of the Master’s programme, meet challenges and facilitate the students’ competence, during the learning process a variety of learning and teaching strategies are used. The programme is realized in the interactive e-learning base, using Skype and web-cameras; to replace the existence of regular lectures, studies didactic material, whose structure supports independent studies, is prepared for students in Latvian, English or Spanish. To facilitate students’ academic success, in addition to the programme various forms of individual counseling are implemented.

5. Findings of the research
5.1. How did research-based academic studies promote students’ learning outcomes?
Research-based academic studies were implemented by ensuring the support for introducing research orientation in academic studies to develop scientific thinking. Commencing the academic year in September the academic staff supported the process of practical research. Students applied ICT and foreign languages in practical research. The process of the research was supported by 2 tutors (in quantitative and qualitative research).

In October 2008 in the Modules 1 and 2 students’ learning outcomes were promoted by classification and structuring of information in forums. The situation is not known for the students — work in Moodle environment: logging on and orientation in Moodle environment. The support for developing experience of the activity is as follows: the proposal of the theme, response, editing, structuring of information in forums (social problems in life and work); the forum of study process (study problems, information exchange, the dialogue etc.), course forum (to ensure the acquiring, understanding and evaluation of the study course). In these Modules students are purposefully led towards systemic initiation of topics for forums, and download of information in each relevant forum have been done by tutors and professors. In the framework of Modules 1 and 2 were highlight argumentation of opinions from the theoretical angle, for example, psychological and psycho-pedagogical approach according to the deviances in brain functions or the peculiarities of perception becomes topical.

Practical investigation „Research on Educational Treatment of Diversity in Inclusive contexts” (coordinated by professor Samuel Gento, UNED) was initiated for cooperation in research. In the framework of Modules there was accentuation of the advantages of cooperation in research and the application of ICT in research – the server of quantitative data (the Internet link, the internet survey,
the importance of foreign languages in international research (the description of the project in English and Spanish), and purposeful organization of the thematic glossary. The orientation of the Modules’ activities towards scientific thinking (unified for all the universities), e.g.,

Variant 1: to comment and synthesize one of the categories of the material. The guidelines for the objectives:

a) Explain your choice: why exactly this category (close to your work, a novelty, ...).
b) Describe the structure of the book, the most significant parts of it to you.
c) Organize lecture notes on the content (design a table, scheme...).
d) Personal conclusions.

Variant 2: to comment and synthesize one of the books, mentioned in the list of literature (or some other book on a similar topic). The guidelines for the objectives:

a) Explain your choice: why exactly this category (close to your work, a novelty, ...).
b) Describe the structure of the book, the most significant parts of it to you.
c) Organize lecture notes on the content (design a table, scheme...).
d) Personal conclusions.

Modules 3 and 4 were in November 2008. In these Modules the development of scientific thinking was promoted by defining notions, discovering structures, their analysis and synthesis, the coding of the research data. The overall program setting in all four universities in those Modules was the defining of the criteria for inclusive education, and, after that – the analysis of problem situations, the comment on the quality approach for the problem situation, described in the Module. For example, recommendations, unified approach in all four universities to implement the activity successfully:

Firstly, the criteria for inclusive education must be set, according to which you will evaluate if, and in what amount, they are found in the concrete problem situation.

Secondly, the problem situation must be commented on the basis of the contents of Module 3 as well as from the viewpoint of the literature, acquired supplementary.

Thirdly, in supplementary evaluation it will be taken into account to what extent you have actualized your practice and theory to offer definite solutions. The issue is to see wider causal consequences, uniting your understanding with theory and practice.

In conclusion, both a request and a reminder: in electronically sent works all the demands for the scientific research paper – good structure, well-organized references and list of literature must be observed.

In December 2008 in Modules 5 and 6 the synthesis of the acquired theoretical knowledge in designing the activities’ plan for the professional situation, its adaptation in definite context – young children, the deaf, the people with impaired movements etc. – was accentuated, thus promoting the synergy of the previously acquired research and theoretical study material. The goal of these activities is to promote Master’s students to apply the knowledge obtained from the course in their particular situation to accomplish their competences. The development of scientific thinking was promoted by structuring content in tables, schemes, eliciting key words as well as good practice sampling according to the criteria set. Some Master’s students experienced problems with their scientific articles that are why the activity was only partly successful.

The necessary support of the teachers’ team is ensured (professors and tutors): “If there are any questions what exactly to do in any particular activity and how to organize it in a written form, don’t hesitate to ask”. The direction of the study support: orientation in the varied material, stating the main for promoting changes in the workplace. The support in Module 6 was given for organizing groups and self-assessment of group’s dynamics (the observation pages, self-assessment pages, stating the level). Learning outcome self-assessment pages are introduced – how the activity of students’ themselves, and study support promoted their competence. As for Modules 7 to 12, the support is directed at self-organized language, improving ICT and research in different situations. In Module 12 completely were self-organized studies with meeting deadlines, taking into account the students’ professional interests and workload. The students worked in collaborative groups to identify what they need to learn in order to solve a problem, engage in self-directed learning, apply
their new knowledge to the problem, and reflect on what they learnt and the effectiveness of the strategies employed.

In this paper we are analyzing in more detail the following Master’s students’ manifestations of generic competences, which prove the development of scientific thinking in research-based academic studies:

1) I structured the scientific content in the basic approaches;
2) I critically differentiated the development tendencies of epistemological structures;
3) I used my knowledge in social and cultural context;
4) I implemented my knowledge in practice;
5) I used the accessible sources of concrete field of knowledge;
6) I enlarged my knowledge by using different types of research;
7) I ensured the management of my studies in an effective and economical manner;
8) I organized my knowledge in structured and systemic way;
9) I enlarged my knowledge by using scientific, cultural and popular contexts;
10) I integrated knowledge in macro-context directions and approaches;
11) I initiated and participated in research activities which are connected with educational treatment of diversity (Integrated competence).

To promote quality of the students’ learning outcomes in the research-based academic studies Master’s students were offered various opportunities for research process in the framework of the programme. In the next chapter we describe which of them Master’s students have made use of, and how they have promoted the quality of students’ learning outcomes.

5.2. Which opportunities were secured in research-based academic studies by the quality of students’ learning outcomes?

To evaluate which opportunities ensure the quality of students’ learning outcomes in research-based academic studies let us analyze students’ generic competences self-assessment after the 1st semester, which will also reflect the development of Master’s students’ scientific thinking. Research-based academic studies ensured many varied system-oriented educational opportunities for Master’s students. The opportunities offered by research practice of students include experiential active learning such as collective decision making on educational issues; field-based learning such as internships; peer instruction; and structured group experiences such as community service, international study etc.

Commencing their studies, Master’s students often took the chance of meeting their academic staff in face-to-face meetings for getting explanation and directions about what, how and why to do something. For example, how to improve their ability to make use of the materials in Latvian, Spanish and English, and how to read scientific texts. There were students who took their personal experience on the basis more than an opportunity. Some students were eager to apply their knowledge in practice, but not always there was an opportunity to implement this idea, e.g., Student A9 evaluates the role of practice and in her self-assessment writes as follows:

“Bliss signs I have nowhere to apply at the moment. Praxis, by all means, allows saving knowledge in memory...”

Students made use of the opportunity to use the list of additional literature after each Module. However, in the beginning of their studies the above mentioned generic competences were manifested only when it was explained in all details what, how and why it had to be used, for example, Student A1 self-assessing generic competence to structure the scientific content in the basic approaches writes:

“At the beginning of studies I really expected to get explanations what and why had to be done” (See Table 2).
Students’ self-assessment of generic competences - I structured the scientific content in the basic approaches

<table>
<thead>
<tr>
<th>If it was explained in all details what, how and why it had to be used</th>
<th>If it was explained what, how and why it had to be used</th>
<th>Sometimes used by students’ initiative, when they had to take independent decisions and plan what, how and why it had to be done</th>
<th>Often used by students’ initiative, when they had to take independent decisions and plan what, how and why it had to be done</th>
<th>Always used by students’ initiative, when they had to take independent decisions and plan what, how and why it had to be done</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Student A1:</strong> At the beginning of studies I really expected to get explanations what and why was to be done.</td>
<td><strong>Student A2:</strong> Different basic approaches to acquisition of scientific content, such as text reading methods, were explained in details by the academic staff.</td>
<td><strong>Student A3:</strong> By exploring the study material</td>
<td><strong>Student A4:</strong> In Modules 1 and 2, when it was not clear how to work with them, I listened to the advice given at face-to-face meetings.</td>
<td><strong>Student A5:</strong> Work with the theoretical material of the Modules. <strong>Student A1:</strong> Starting already from Module 3 I began to plan my study process independently and structure the content of the Module in order to acquire it easily. <strong>Student A3:</strong> By exploring the study material</td>
</tr>
</tbody>
</table>
Master’s students were able to structure the scientific content in the basic approaches, if it was explained what, how and why it had to be used already starting with Modules 2 and 3, because students understand what the study process will be like and how to better organize it. Students made use of the opportunity to study course materials, get the explanations from their course mates (See Table 2). Sometimes Master’s students were able to structure the scientific content in the basic approaches due to their self-initiative, making independent conclusions on what, how and why has to be done. The following opportunities promoted it – the work with Modules’ theoretical materials already starting with Module 3 studies self-controlled planning of the study process, scientific structuring of Module’s contents in order to acquire it easier, sometimes organizing lecture notes for acquiring scientific content, applying of various foreign languages, translating programmes, group work with course mates.

Master’s students often were able to structure the scientific content in the basic approaches due to their self-initiative, making independent decisions and planning on what, how and why had to be done if they made use of the opportunity to study materials and additional literature, answering the exam questions as well as taking part in the forum, and also applying basic approaches to perform the activities of the study course. Thus, Student A7 admits, that theoretical ground helped to analyze and understand modern pedagogical relationships/trends as well as get insight in future situations which demand problem solving competently. The most essential issue is that students built their own system for how to acquire study material effectively, so their work in the following Modules became easier. Student A4 admits that the active support of the leaders of Modules 5 and 6 helped her a lot in acquiring study material. The opportunity to enrich the acquired experience is of utmost importance for students to be able to structure the scientific content in the basic approaches due to their self-initiative, making independent decisions and planning on what, how and why has to be done, for example, Student A1 writes that self-initiative helped her to make use of the experience, gained during the years of her pedagogical career in work with children with special needs and the knowledge about inclusive education. The competence to structure the scientific content in the basic approaches was initially promoted by the support of lecturers – as detailed explanations and guidelines, but later as it is seen in Table 2, students’ autonomy developed significantly, which is proved by Student’s A1 feedback. However, not all the students reach complete autonomy, as mostly Master’s students were not able to structure the scientific content in the basic approaches due to their self-initiative, making independent decisions and planning on what, how and why has to be done.

The ability to critically differentiate the development tendencies of epistemological structures, if it was explained what, how and why it had to be used was promoted by the opportunity to listen to academic staff’s advice got during face-to-face meetings for methodology how to improve competences. During the study process students start to understand and critically differentiate what to read, what to acquire from the offers in Modules as well as where the additional literature is necessary for better understanding of the cognitive theories offered. They try to critically differentiate the development tendencies of epistemological structures in each of the Modules. Participation in chats and forums stimulated them more often to critically differentiate the development tendencies of epistemological due to their self-initiative, making independent decisions and planning on what, how and why has to be done.

The 1st research task, i.e., surveying and interviewing, promoted the ability to always critically differentiate the development tendencies of epistemological structures due to their self-initiative, making independent decisions and planning on what, how and why has to be done. That gave Master’s students the idea on the real situation (the attitude of social environment) in Latvia in connection with the pedagogical treatment of diversity, and helped to determine the specific features, characteristic of our society. Conceptual thinking developed students’ self-comprehension abilities, i.e., to be emancipated, daring to apply their reason and skills as well as to be politically and socially minded.

The ability to use knowledge in social and cultural context if it was explained what, how and why it had to be used was promoted by using the following opportunities: to perform group work,
writing an article, as well as getting involved in the group work offered in the Modules. Master’s students found the opportunity of getting the explanation from the teaching staff on how to apply their knowledge in social and cultural context, the call for participating in chat rooms and forums, summarizing the results of surveys and good practice examples as well as the studies in Module 6, essential.

The students sometimes used knowledge in social and cultural context in mutual course chats, trying to investigate work environment and their surroundings in relevance to the material acquired, and in their workplace. For example, Student A6 reflects:

„In the group there is a physically retarded Russian child, a child from a social-risk family... I made use of good practice examples and the knowledge, gained from my course mates and study colleagues”.

More often Master’s students used knowledge in social and cultural context in their studies, contacting their course mates via forums and e-mails, by discussing good practice examples, as well as in their workplace with colleagues, and also in their family framework – in upbringing their children and their children’s classmates and friends. The Master’s student considers that she could always apply her knowledge in performing her practical activities which she always did on her own initiative. Thus it can be concluded that students were ensured to get the opportunities to enrich their experience in many varied socially important contexts, to share the responsibility and take part in problem solving.

Students’ implemented knowledge in practice if it was explained what, how and why it had to be used, making use of the following opportunities: to perform the examination tasks of Modules 5 and 6, and the examination tasks of all the Modules, carry out different practical activities, where it is possible to apply the knowledge in practice. The implementation of knowledge into practice promotes making autonomous decisions in responsible meaningful activity. For example, a Student A4 admits that she applied more and more knowledge in her regular work, in every coming study course, in performing activities with every new study course covered. More often Master’s students implement knowledge into practice on their own initiative, performing practical activities, for example, using signs for the deaf in the family, in the evaluation of the surroundings, in the workplace design to improve it for the people with special needs, etc. One of the students writes that she always implemented knowledge into practice on her own initiative (Student A1):

„I tried to implement any newly acquired knowledge in my work, for example, shared the information on the latest research findings that some brain dysfunctions can be compensated by varied developing activities.”

Students’ ability to use the accessible sources of concrete field of knowledge if it was explained what, how and why it had to be used was promoted by the opportunity to obtain the information on study platform about additional literature, to read information on the Internet, in books, in magazines (Modules 1-6), course materials in Spanish, course forums on e-platform, as well as make use of interesting Internet addresses shared by course mates, which are useful in some area of knowledge. Sometimes Master’s students use the accessible sources of concrete field of knowledge: reading information on the Internet, in books, in magazines; searching for more accessible sources in libraries, sharing the experience, studying all the Modules, obtaining the information available on the study platform. Problem situations promoted students’ self-initiative, making independent decisions and planning for use the accessible sources of concrete field of knowledge. See Student’s A10 comments:

"If it was hard to understand a theme because of its complexity or bad technical translation, the additional sources were of utmost importance.”

Another student comments (Student A8):
Student A8 searched advantages not only for problem situations, but always uses the accessible sources of concrete field of knowledge: studying scientific content, performing practical activities, studying additional literature, often obtaining information on the Internet. The ability to use academic content in widely used foreign languages was facilitated if it was explained what, how and why it had to be used by carrying out the following opportunities: reading of materials in Modules 1-6; getting explanations how to operate translation programmes to acquire the material in a foreign language; studying sources in Spanish and English and their translating. Sometimes students tried to apply different methodologies to improve their competence working with texts in foreign languages, sometimes translating them into German and Russian, made use of Latvian and Russian as supplementary sources (critical literature, Internet resources, cooperation in group work, forums, chats). That proves that Master’s students try to construct their own experience for language use. Therefore varied choice of language options is offered in their studies. The ability to enlarge knowledge by using different types of research if it was explained what, how and why it had to be used was facilitated by the opportunity to operate with the theoretical material in the Modules and carry out the survey in Module 6. To enlarge knowledge by using different types of research, Master’s students sometimes search for information on the Internet, as well as read different kinds of media, where different studies have been described. Students admit that in the Module studies, as well as in their tasks and examinations different types of research were used which allowed getting the insight in the variety of pedagogical treatment in our country and in other continents. It helped to determine opportunities and limitations for personal further scientific activity.

The ability to ensure the management of studies in an effective and economical manner if it was explained what, how and why it had to be used was stimulated by academic staff’s recommendations on planning and organizing monthly planning, the explanation how to ensure the management of studies in an effective and economical manner, offering worksheets, which make the work more effective, and in e-platform – forums. Students critically reflect on economical constructing of study experience, for example, Student A6:

„My study process cannot be called economical, as I prefer printed study materials, which makes it costly due to the expenses for printing services.”

It proves that students are actively involved in the study process and benefiting from the involvement. The method of group work is often effective, saving time and, also, the planning for dividing the daily tasks. Some students always plan their work and study activities, thus ensuring what is effective, for example, Student A4:

„Firstly, I check the information, available on the study e-platform, then make use of the resources from there, after that I plan independent studies, translating, obtaining additional information on the Internet, as well as from individual meetings with tutors. Moreover, I save the necessary information in my data basis.”

Students make use of the opportunities offered, making independent decisions regarding their studies, thus taking the responsibility for their successful process and outcomes. The ability to organize knowledge in structured and systemic way, if it was explained what, how and why it had to be used was facilitated by the following opportunities: recommendations how to perform it more rationally, and organizing lecture notes from study materials. Sometimes students classified their knowledge according to definite areas, and chose how to apply it. Some students organized their knowledge on their own, making small lecture notes on each chapter from the Module in order to get further oriented in scientific content, but some of them always write out the major points and examples in order to facilitate the process of comprehension and to elaborate the plan for their future Master’s Paper. There are students who consider their structuring of knowledge
was motivated only by the necessity to perform tasks for the activities and examinations. The ability to organize knowledge in structured and systemic way is facilitated by the reflecting where self-regulation of the study process with applying relevant study methods is of the utmost importance.

The ability to enlarge knowledge by using scientific, cultural and popular contexts if it was explained what, how and why it had to be used was facilitated by making use of varied contexts, offered for improving knowledge. Students sometimes use scientific, cultural and popular contexts, searching for information in supplementary literature, mass media, in seminars, sharing their experience and also participating in forums on definite topics. Students enlarged the themes offered in study Modules by reading about pedagogical solutions for the diversity – both the experience in Latvia and abroad. Student A11 considers that to turn scientific, cultural and popular contexts on her own is necessary in order to enlarge knowledge, structure the processed information with the aim to comprehend the essentials. Multi perspectives promote the ability to enlarge knowledge by using scientific, cultural and popular contexts via critical reflection.

The ability to integrate knowledge in macro-context directions and approaches if it was explained what, how and why it had to be used was initiated by the opportunity of work with the theoretical material in Modules. Students reflect, that they can sometimes integrate knowledge in macro-context directions and approaches, because they applied the knowledge and experience acquired about the prospects of children with special needs for getting education and support in Latvia, already before the Master’s programme started, comparing it with the educational treatment of diversity abroad. Besides, they sometimes do it on a theoretical level, considering the application of information in Modules in real life situations. More often the students do it by studying Module materials and additional literature, searching for additional information on the Internet, answering examination questions as well as in chats and forums, by listening to the lectures, available on the Internet. Work in a group in Google environment is also mentioned as an alternative. Student A11 often integrated knowledge in macro-context directions and approaches on her own as she considered it to be self-integration in socio-cultural context for acquiring cooperation skills. That testifies for the comprehension of social problems and sharing one’s responsibility in order to solve them.

The ability to initiate and participate in research activities which are connected with educational treatment of diversity (integrated competence), if it was explained what, how and why it had to be used was facilitated by the opportunity to participate in research and perform only the surveying and interviewing included in the study context. Still, there were students who always did it on their own initiative, such as Student A1:

„As I am working as a social pedagogue at school I proposed and carried out various studies at school on how pupils feel in school environment, and, also, about their safety.”

Each Master’s student constructs his/her own enlarging of experience by applying various innovative learning opportunities to reach a subjectively meaningful goal. Varied sources of information, new technologies and languages are a significant context to facilitate the forming of learning, communication and collaboration situations, which, in their turn, facilitate the development of students’ scientific thinking. Each student has different opportunities, different levels of manifestation of the competence, relevant to a situation.

The opportunity for cooperation – work together with the course mates in groups facilitated the autonomy of master students, by making independent decisions about their studies, by promoting taking responsibility for study process and outcomes. The new opportunities, which were offered for research-based academic studies in e-learning environment, facilitated the development of scientific thinking and enlarging of Master’s students’ experience, which, in its turn, proves the quality of studies. Making use of experience, self-feeling and social recognition we implement any opportunity, that is why we will analyze what the link between these learning dimensions is like, and how, taking it into account, to improve the study process.
5.3. How to provide research-based academic studies in our Master’s programme in the future?

It is the competence of the academic staff to create transformative learning environment (self-feeling, social recognition and experience widening), capable to change constantly, where each student has a opportunity to be actively involved, critically analyzing and investigating via using his/her positive and negative emotions for progress of the study process, thus improving their competence.

After the research on students’ enriching their self-feeling, social recognition and experience during systemic-constructivistic learning process in our Master’s programme has been done, it will be possible to improve research-based academic studies in the future. The research on students’ enriching their experience in research-based academic studies was carried out by using the qualitative and quantitative analysis of data gained in chats and forums of e-platform.

The metacodes and conceptual codes used in data processing have been determined after Reich (2005:21) processed by AQUAD 6.0 software. On its basis linkages were constructed; their meanings were demonstrated in accordance with the respective text segments in the way shown below (see Table 3).

<table>
<thead>
<tr>
<th>The system of systemic-constructivistic learning conceptual codes</th>
</tr>
</thead>
</table>
| ![Table 1](image)

<table>
<thead>
<tr>
<th>Codes</th>
<th>Metacodes</th>
</tr>
</thead>
<tbody>
<tr>
<td>SF_ps</td>
<td>physical symptoms</td>
</tr>
<tr>
<td>SF_ex</td>
<td>expectations</td>
</tr>
<tr>
<td>SF_de</td>
<td>desires</td>
</tr>
<tr>
<td>SF_mo</td>
<td>motivation</td>
</tr>
<tr>
<td>SF_mo</td>
<td>wishes</td>
</tr>
<tr>
<td>SF_il</td>
<td>SF</td>
</tr>
<tr>
<td>SF_w</td>
<td>SF</td>
</tr>
<tr>
<td>E_pbdm</td>
<td>a pattern of behaviour developed in the motherland</td>
</tr>
<tr>
<td>E_cp</td>
<td>cultural peculiarities</td>
</tr>
<tr>
<td>E_oobac</td>
<td>one’s own biography as a construction</td>
</tr>
<tr>
<td>E_n_bee</td>
<td>negative basic emotional experience</td>
</tr>
<tr>
<td>E_p_bee</td>
<td>positive basic emotional experience</td>
</tr>
<tr>
<td>E_sel</td>
<td>success experienced in learning</td>
</tr>
<tr>
<td>E_sw</td>
<td>specific world</td>
</tr>
<tr>
<td>E_pbdm</td>
<td>consequences of the surrounding world</td>
</tr>
<tr>
<td>SR_cosw</td>
<td>adopting concepts of roles</td>
</tr>
<tr>
<td>SR_nup</td>
<td>negative patterns</td>
</tr>
<tr>
<td>SR_soil</td>
<td>search of one’s ideals</td>
</tr>
<tr>
<td>SR_pp</td>
<td>positive patterns</td>
</tr>
<tr>
<td>SR_ase</td>
<td>adopting social expectations</td>
</tr>
</tbody>
</table>

The constructed linkages have been statistically checked with the data obtained by SPSS 16.0 software. The frequencies of metacodes correspond to normal distribution after Kolmogorov-Smirnov Z Test, but the frequencies of conceptual codes did not correspond to normal distribution after Kolmogorov-Smirnov Z Test. Having summarized the data gained in chats and forums of e-platform, the linkages among the conceptual codes were constructed which show in what way students’ constructed socio-cultural learning experience.

There is a certain relation between description of experience (the code “one’s own biography as a construction”) and social recognition (the code “search of one’s ideals”), for example. Student A5 compares her experience of the previous studies with the present studying in the e-environment in Master’s programme (the code “one's own biography as a construction”):
“I am afraid that, in spite of my efforts to cope with all the study requirements, I don’t have many positive feelings (the code “negative basic emotional experience”) to e-studies and, to my mind, it’s not the best one. Yet, I have decided to overcome all the difficulties and achieve all the pedagogic goals set in the beginning of the programme (the code “motivation”). At the moment only this goal keeps me from leaving the programme (the code “search of one’s ideals”).”

It is seen from the above mentioned example how reconstruction proceeds – it is the 1st phase when the previous self-feeling, social recognition and experience is reconstructed and, alongside with the formerly established opinion on e-studies, new perspectives appear and the attitude towards the experienced changes. In transformative learning environment both negative basic emotional experience, as well as positive basic emotional experience are actualized, which promotes the students’ motivation to construct their own world vision (social recognition) with experience widening. In Table 4 it is seen that students’ negative basic emotional experience tightly correlates with their social recognition (search of one’s ideals (r_s=0.62, p<0.01)).

Table 4

<table>
<thead>
<tr>
<th>Codes</th>
<th>SF_mo</th>
<th>SF_w</th>
<th>E_oobac</th>
<th>E_n_bee</th>
<th>E_p_bee</th>
<th>E_sel</th>
<th>SR_np</th>
<th>SR_soi</th>
<th>SR_pp</th>
</tr>
</thead>
<tbody>
<tr>
<td>SF_w</td>
<td>0.57**</td>
<td>1</td>
<td>0.44*</td>
<td>0.43</td>
<td>0.22</td>
<td>0.42</td>
<td>0.44*</td>
<td>0.73**</td>
<td>0.47*</td>
</tr>
<tr>
<td>E_oobac</td>
<td>0.46*</td>
<td>0.44*</td>
<td>1.00</td>
<td>0.15</td>
<td>-0.01</td>
<td>0.29</td>
<td>0.44*</td>
<td>0.34</td>
<td>0.52*</td>
</tr>
<tr>
<td>E_n_bee</td>
<td>0.40</td>
<td>0.43</td>
<td>0.15</td>
<td>1.00</td>
<td>0.23</td>
<td>0.27</td>
<td>0.26</td>
<td>0.62**</td>
<td>0.36</td>
</tr>
<tr>
<td>E_p_bee</td>
<td>-0.04</td>
<td>0.22</td>
<td>-0.01</td>
<td>0.23</td>
<td>1.00</td>
<td>0.20</td>
<td>-0.04</td>
<td>0.16</td>
<td>0.16</td>
</tr>
<tr>
<td>E_sel</td>
<td>0.65**</td>
<td>0.42</td>
<td>0.29</td>
<td>0.27</td>
<td>0.20</td>
<td>1.00</td>
<td>0.61**</td>
<td>0.50</td>
<td>0.59**</td>
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<tr>
<td>SR_np</td>
<td>0.62**</td>
<td>0.44*</td>
<td>0.44*</td>
<td>0.26</td>
<td>-0.04</td>
<td>0.61**</td>
<td>1.00</td>
<td>0.58**</td>
<td>0.89**</td>
</tr>
<tr>
<td>SR_soi</td>
<td>0.68**</td>
<td>0.73**</td>
<td>0.34</td>
<td>0.62**</td>
<td>0.16</td>
<td>0.50*</td>
<td>0.57**</td>
<td>1.00</td>
<td>0.67**</td>
</tr>
<tr>
<td>SR_pp</td>
<td>0.63**</td>
<td>0.47*</td>
<td>0.52*</td>
<td>0.36</td>
<td>0.16</td>
<td>0.59**</td>
<td>0.89**</td>
<td>0.67**</td>
<td>1.00</td>
</tr>
<tr>
<td>SR_ase</td>
<td>0.41</td>
<td>0.65**</td>
<td>0.37</td>
<td>0.30</td>
<td>0.28</td>
<td>0.14</td>
<td>0.21</td>
<td>0.45*</td>
<td>0.32</td>
</tr>
</tbody>
</table>

* p<0.05; ** p<0.01 Asymp. Sig. (2-sided)

It proves that the main task for the academic staff – to actualize the students’ former positive and negative basic emotional experience – has been implemented, thus facilitating the organization of the next stage where the opportunity for enriching their experience has been ensured for the students.

There is a relation between description of experience (the code “basic emotional negative experience”) and self-feeling (the code “motivation”) for example, Student A6 writes:

“I am not very satisfied that sometimes, while the translation took other students about 12 minutes, I had to spend on it more than half a day, as the translation programme doesn’t work in my home computer – I had to use Internet where there are certain limits of text lengths (the code “basic emotional negative experience”). The maximal text length allowed for translation is only one page. So it was a very time consuming procedure. However, as there wasn’t a ready-made material in English and I had to translate the text on my own and contact my group mates in chat forums sharing experiences, all this served me as an opportunity to learn a lot of new things (the code “motivation”).”

In the 2nd phase the deconstruction of socio-cultural learning experience, where master students search for the similar and the different, the acceptable and the unacceptable, takes place. It is proved by the fact that there is relation between description of self-feeling (the code: “wishes”) and social recognition (the code: “negative patterns”), for example:

Student A10 tells: “I can only read the chat history, and what I have written does not appear. Are there any IT problems?”

Student A2 tells: “Student A10, you have the same problem as Student A12 has. I cannot solve the problem now, but try to do it on Monday!”
In the following example it is seen that during the research by reflecting on a negative praxis sample, the difference is being searched for:

"Then, in my case, the qualitative methodology and statistics data should be chosen to help generalize the situation….This year there is nobody, but last year there was only 1 out of 500 imprisoned who learned IT, but quit the course because of the lack of patience”.

The reflection on this negative experience creates “wishes”: “I would like to inspire hope to my pedagogues that everything is possible if only the person has a wish…”, which proves the students’ co-responsibility and the readiness to participate in problem solving.

One more example from students’ reflections gives a more vivid illustration of this link:

„It is quite certain that their own parents are the most important for a child, even the worst. I know a case that a nice boy from an orphanage chose to stay there and wait for his alcohol – addicted mother instead of staying with good foster – parents. I am eager to do something to make the society and parents better understand how important the emotional environment and the attitude towards the child are especially during their very young age.”

The results of quantitative data processing (see Table 4) confirm a moderate correlation between self-feeling (the code “wishes”) and social recognition (the code “negative patterns”) (r_s=0.44, p<0.05). Students are motivated for new-constructing by both the negative and positive experiences which give the clue for reaching the envisaged goal. There is relation between description of self-feeling (the code: “expectations”) and experience (the code: “basic emotional positive experience”) and social recognition (the code: “search of one’s ideals”). “Search of one’s ideals” is the condition that denotes the relation between the descriptions of “expectations”, for example: „umm, it was interesting, in fact... It was strange to sit there, but it will be OK...” and “basic emotional positive experience”:

“I am also glad about the meeting. I got to know many new things and what, how and why we will be taught.”

However, this relationship can be referred to the definite group only, it cannot be generalized, but it is proved that there is moderate correlation between self-feeling (the code: “expectations”) and experience (the code: „specific world”) (r_s=0.44, p<0.05) and social recognition (the code: „consequences of the surrounding world” (r_s=0.45, p<0.05).

There is a relation between description of self-feeling (the code: “wishes”) and experience (the code: “success experienced in learning”), for example, in Module 5 chat it is seen how Student A10 “wishes” to acquire the unknown:

„I was away only for a couple of days, and now I do not know where I can read about that presentation” and how it facilitates the exchange of information between students and tutor’s support and explanations, which for some other student, in its turn, is an essential source for “success experienced in learning” – so Student A11 writes: „Dear course mates and our tutor, thank you for this class!...”

The results of quantitative data processing (see Table 4) confirm that the student’s self-feeling (the code “wishes”) tightly correlates with her experience (the code “search of one’s ideals”) (r_s=0.73, p<0.01). There is as well moderate correlation between self-feeling (the code “wishes”) and experience (the code “one’s own biography as a construction”) (r_s=0.44, p<0.05). Thus, the linkages: self-feeling (the code “wishes”), experience (the code “one’s own biography as a construction”) and social recognition (the code “search of one’s ideals”), which were constructed
in the course of qualitative research, confirm that when students really wish, they use other people’s or their own biography for achieving their own goals.

The data obtained in forums reveal, that the positive experience is the most important (the own, course mate or tutor’s), to make a student search for his/her ideal ($r_s=0.67$, $p<0.01$) and the success experienced in learning ($r_s=0.59$, $p<0.01$). Also, negative experience can stimulate a student to implement his/her wishes ($r_s=0.44$, $p<0.05$), get success experienced in learning ($r_s=0.61$, $p<0.01$) and search of one’s ideals ($r_s=0.58$, $p<0.01$). Negative basic emotional experience is related to the search of one’s ideals ($r_s=0.62$, $p<0.01$). That means that the challenge is a learning stimulator, which promotes successful learning. Transformative learning environment is the environment where a student experiences the challenge. Research is challenge to all Master’s students. This is the environment that encourages and supports the research and emphasizes the synergy between research activity and learning.

The correlation among the metacodes is measured by using Pearson correlation coefficient (see Table 5), which showed that students’ experience tightly correlates with their social recognition ($r=0.68$, $p<0.01$) and moderately correlates with students’ self-feeling ($r=0.48$, $p<0.05$) and v.v. Thus it can be assumed that students’ experience is that very feature which influences the mutual intercorrelation between students’ social recognition and self-feeling ($r=0.48$, $p<0.05$).

Table 5

<table>
<thead>
<tr>
<th></th>
<th>Experience</th>
<th>Self-feeling</th>
<th>Social recognition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experience</td>
<td>1</td>
<td>0.48*</td>
<td>0.68**</td>
</tr>
<tr>
<td>Self-feeling</td>
<td>0.48*</td>
<td>1</td>
<td>0.49*</td>
</tr>
<tr>
<td>Social recognition</td>
<td>0.68**</td>
<td>0.49*</td>
<td>1</td>
</tr>
</tbody>
</table>

* $p<0.05$; ** $p<0.01$ Asymp. Sig. (2-sided)

By broadening students’ experience their social recognition would get improved, which, in its turn, would have a certain impact on students’ self-feeling. Thus, in the future more attention has to be paid to both the negative basic emotional experience and positive basic emotional experience, cultural peculiarities for broadening students’ experience as well as it is necessary to actualize a pattern of behavior developed in the motherland and specific world. On the other hand, it could be assumed that it is students’ social recognition that influences mutual intercorrelation between students’ experience and self-feeling. Thus, by improving students’ social recognition, their experience would broaden, which, in its turn, would have an impact on students’ self-feeling. During research-based academic studies in our Master’s programme in the future more attention has to be paid in relation to social recognition adopting social expectations.

5.4. What advantages, difficulties and deficits exist in organization of opportunities of research-based academic studies?

Advantages
During research-based academic studies each student had an opportunity to design the enriching of their experience by making use of varied sources of information, new technologies, and several languages to reach an important subjective goal. Organization of opportunities (by constructing various learning, cooperation and communication opportunities) formed an important research-based academic studies context, facilitating students’ research-related capabilities. Research-based academic studies positively and significantly affect the number and quality of student-student and student-academic staff interactions, as well as the number and quality of diversity-related experiences in which students participate.
Difficulties
Difficulties appeared during the phase of preparing (Modules 1-4) which is related to transformative
environment and social recognition, self-feeling change of previously experience of traditional
studies (lectures, seminar and dominant position of the academic staff), actualizing each student’s
negative basic emotional experience and positive basic emotional experience, to create challenge
for the further studies. During the next study phase of activity the difficulties are related to that not
all the master students used the advantages of cooperation for exchanging experience and saving
their time although the opportunity to improve their individual, independent and responsible
activities were offered for each student. It is related to academic staff’s deficient performance
during the phase of preparing. Sometimes constructing of new knowledge caused difficulties to
them which highlight the drawbacks during the phase of preparation. Thus the deconstruction of
experience is not fully facilitated and emotionally supported in academic staff and students’ dialog
as it starts with the exchange of experience with other students. During the phase of assessment the
self-assessment of the learning quality caused difficulties to some students, because it involves
students previously experience to asses academic staff’s work not their own activity, independence
and responsibility. Assessment is essential as it facilitates discovering of some other perspectives,
forming of new ideas as well as borrowing ideas.

Deficits
The programme’s main deficit is the orientation of the academic staff towards teaching, not learning.
That interferes with the principle of integration of learning, the implementation of communication
and collaboration in research-based academic studies in various diverse interaction situations for
mutual and social enrichment.

Conclusions
1) Research-based academic studies allow students developing research-related capabilities by
promoting critical scientific thinking, solution of problems and use other analytic strategies and
technical tools; enables students to place learning within a meaningful context, establishing
environment that encourages and supports the research and emphasizes the synergy between
research activity and learning in interdisciplinary research fields.
2) The development of students’ scientific thinking as the quality of students’ learning outcomes is
facilitated by using various new learning opportunities: sources of information, new
technologies, and several languages to reach an important subjective goal. This is a significant
social and cultural context for facilitating communication and collaboration in research-based
academic studies in various diverse interaction situations for mutual and social enrichment
through which each master student constructs an important subjective goal on their own.
3) In the future research-based academic studies in our Master’s programme have to be ensured by
improving of life wide learning quality. That means that it is needed to create transformative
learning environment, capable of changing, in which all the involved are able to self-reflect and,
alongside, re-create themselves via multidimensional opportunities to change life and work in
life wide learning context.
4) Advantages in organization of opportunities of research-based academic studies – developed
students’ research-related capabilities integrating learning, communication and collaboration.
5) Difficulties in organization of opportunities of research-based academic studies – developed
students’ research-related capabilities by organizing socio-cultural learning in constructivistic
system.
6) The deficits in organization of opportunities of research-based academic studies are:
- because of the influence of the domineering input-output approach at schools and higher
educational institutions the first year master students have a deficit in the development of
their methodological thinking, e.g., deficit in general competencies how to systematize
knowledge into approaches, critically differentiate epistemological structure, define
development tendencies, etc.
the orientation of the academic staff to teaching, not learning, has a negative influence upon learning outcomes.

Discussion
This is a research for ensuring the investigation of the patterns of contribution of promotion of the quality of learning outcomes in higher education in the research-based academic studies and for elaboration of evidence-based hypothesis for succeeding in life wide learning experience perspective. The following hypothesis for further studies is put forth: “In order to promote the students’ quality of learning outcomes – development of research-related capabilities in higher education in the research-based academic studies it is necessary broadening students’ experience, because then their social recognition would also get improved, which, in its turn, would have a certain impact on students’ self-feeling or by improving students’ social recognition, their experience would broaden, which, in its turn, would have an impact on students’ self-feeling”.

References


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