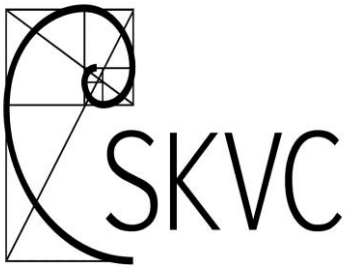

STUDIJŲ KOKYBĖS VERTINIMO CENTRAS

LIETUVOS EDUKOLOGIJOS UNIVERSITETO *INFORMATIKOS PEDAGOGIKOS* STUDIJŲ PROGRAMOS (612X13021) VERTINIMO IŠVADOS

EVALUATION REPORT OF *INFORMATICS PEDAGOGY* (612X13021) STUDY PROGRAMME AT LITHUANIAN UNIVERSITY OF EDUCATIONAL SCIENCES

Grupės vadovas: Team leader:	Prof. Roland N. Ibbett
Grupės nariai: Team members:	Prof. Philippos Pouyioutas
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Išvados parengtos anglų kalba
Report language - English

Vilnius

2013

DUOMENYS APIE ĮVERTINTĄ PROGRAMĄ

Studijų programos pavadinimas	***Informatikos pedagogika***
Valstybinis kodas	612X13021
Studijų sritis	Socialiniai mokslai
Studijų kryptis	Pedagogika
Studijų programos rūšis	Universitetinės studijos
Studijų pakopa	Pirmoji
Studijų forma (trukmė metais)	Nuolatinė (4 m.), ištęstinė (5,5 m.)
Studijų programos apimtis kreditais	240 ECTS
Suteikiamas laipsnis ir (ar) profesinė kvalifikacija	Dalyko pedagogikos, informatikos bakalauras, pedagogo profesinė kvalifikacija
Studijų programos įregistravimo data	Lietuvos Respublikos švietimo ir mokslo ministro 1997 m. gegužės 19 d. įsakymu Nr. 565

INFORMATION ON EVALUATED STUDY PROGRAMME

Title of the study programme	***Informatics Pedagogy***
State code	612X13021
Study area	Social Sciences
Study field	Teachers Training
Kind of the study programme	University Studies
Study cycle	First
Study mode (length in years)	Full-time (4 years), part-time (5,5 years)
Volume of the study programme in credits	240 ECTS
Degree and (or) professional qualifications awarded	Subject Pedagogics, Bachelor of Informatics, Teacher's Professional Qualification
Date of registration of the study programme	19 of May 1997, under the order of the Minister of the Ministry of Education and Science of the Republic of Lithuania No. 565

CONTENTS

I. INTRODUCTION

The procedures of the external evaluation of the Lithuanian University of Educational Sciences (Lietuvos Edukologijos Universitetas, hereafter, LEU) *Informatics Pedagogy* bachelor study programme were initiated by the Centre for Quality Assessment in Higher Education of Lithuania nominating the external evaluation peer group formed by the head, Professor Roland Ibbett (Emeritus Professor of Computer Science, University of Edinburgh, Scotland and Chair of the Accreditation Committee of the European Quality Assurance Network for Informatics Education (EQANIE)), Professor Jürgen Dorn (Vienna University of Technology, Vienna, Austria), Professor Philippos Pouyioutas (University of Nicosia, Cyprus), Aleksej Kovaliov (Head of the Centre of Software Development, TEO LT, TellaSonera Group, Lithuania), employer representative, and Justinas Petravičius (Vilnius Gediminas Technical University, Lithuania), student representative.

For the evaluation the following documents have been considered:

1. Law on Higher Education and Research of Republic of Lithuania;
2. Procedure of the External Evaluation and Accreditation of Study Programmes;
3. Methodology for Evaluation of Higher Education Study Programmes;
4. General Requirements of the First Degree and Integrated Study Programmes;
5. Pedagogues' Training Regulations.

The basis for the evaluation of the study programme is the Self-Evaluation Report (hereafter, SER), prepared in 2013, its annexes and the site visit of the expert group to LEU on 22 October 2013. The visit incorporated all required meetings with different groups: the administrative staff of the Faculty of Science, Mathematics and Technologies, staff responsible for preparing the self-evaluation documents, teaching staff, students of all years of study, graduates and employers. The expert group evaluated various support services (classrooms, laboratories, library, computer facilities), examined students' final works, and various other materials. After the expert group discussions and additional preparations of conclusions and remarks, introductory general conclusions of the visit were presented. After the visit, the group met to discuss and agree the content of the report, which represents the expert team consensual views.

The primary goal of LEU is to educate highly qualified professionals in their chosen field of science and professional teachers who are able to operate successfully in a fast-changing society, are knowledgeable about the abilities and skills obtained and professionally active in the

different types of national educational institutions as well as in different contexts of international co-operation. LEU offers undergraduate, graduate and postgraduate studies in humanities, social sciences, physical sciences, biomedicine and technologies.

The purpose of the study programme of *Informatics Pedagogy* is to produce graduates with a degree of Bachelor in subject Pedagogics, Informatics and a teacher's professional qualification, necessary for work as a teacher of informatics in Lithuania.

The study programme was assessed by international experts in 2006 as a study programme ascribed to the study area of Physical Sciences but in 2010 was ascribed to the study area of Social Sciences due to the newly adopted List of Branches of Study Fields. This has had a major impact on the numbers of students enrolling for the programme, as has the requirement that students enrolling to study informatics at University must have studied informatics at school. Without a supply into schools of teachers of informatics with qualifications such as this study programme provides, able to teach computing skills and not just information technology skills, the situation will continue to deteriorate. This is a problem being increasingly recognised internationally. The programme is therefore very relevant to the future education of Lithuanian schoolchildren and to the life of the nation.

II. PROGRAMME ANALYSIS

1. Programme aims and learning outcomes

The aim of the programme is to produce graduates who can work as teachers of the discipline of informatics. Thus the first subgoal is that students learn the fundamental concepts of informatics and mathematics. The second subgoal is to provide students with the required competencies to work as a teacher. A third subgoal is the general idea of personal development in social and personal competences and the preparation for Master studies and lifelong learning. A further aim is to enable graduates to apply means of information processing to create new knowledge.

The aims shall be achieved by four informatics related intended learning outcomes (competences), six general competences and six competences related more to the profession as a teacher. The description of the competences is sound and well defined. They focus on academic and professional requirements, public needs, including life-long learning. The intended learning outcomes of the study programme correspond with the requirements of the European sixth level qualification structure, and include three object types: knowledge, skills and wider competences, including personal and professional achievements. In Table 2 in the SER, the mapping of aims to the 16 intended learning outcomes and the mapping of the intended learning outcomes to study subjects is shown transparently.

However the panel would like to pay attention, that the ability to develop applications is under-emphasized and programming practice should be more visible. Further, the ability to operate a computer environment at a school should be an intended learning outcome. Contrarily, mathematics knowledge is stressed more than necessary for informatics teachers.

The name of the study programme is compatible with the aims and content of the study. However, there is only limited information published on the Web. Information about the aims, intended learning outcomes and curriculum is not accessible in English.

2. Curriculum design

The programme is designed to run full-time over 8 semesters, i.e. 4 years. It consists of 240 ECTS as required by Lithuanian law (minimum is 210 ECTS), thus more than satisfying the Bologna minimum requirement of 180 ECTS. As explained in the report, the distribution of ECTS (60 for Pedagogy, 90 for Informatics, 15 for General Education, 75 for University prescribed and electives) is according to the requirements of law.

The semester breakdown provided in the report shows strict adherence to the 60 ECTS per year, 30 ECTS per semester requirement. The total student workload is ~6400 hours (240*26.7), distributed into lecture hours, practical classes hours, consultation hours and self-study hours.

The sequence of courses offered (semester and year) seems to be appropriate, allowing a mixture of pedagogy and informatics courses every semester. Furthermore, introductory courses are offered during the first semesters, whereas more advanced courses are offered during the last semesters. What is missing however from the self-evaluation report in order to complete the picture is a "prerequisite tree" showing the prerequisite courses of each course. This information is also missing from the Course Syllabus (Subject Description) template used. If the University wants to apply (and be awarded) the ECTS label then all course syllabuses (descriptions) should be written according to the ECTS course syllabus (description) template.

Courses range in ECTS credits from 3 to 12 (3,4,5,6,8,9,12). This is one approach of implementing the ECTS system. A Procrustean approach would be to have each course carry 5 or 6 ECTS across the whole University. Such an approach would allow sharing of courses between programmes, Departments and Faculty and result in many benefits.

As it was stated, the curriculum seems to be balanced with regards to the pedagogy and informatics courses. However, in a degree such as this one would expect the most important and state-of-the-art subjects in each discipline to be covered as well as more interdisciplinary (of the two disciplines) subjects. For example, there seems to be only one compulsory course addressing modern technologies in teaching and learning, namely Information Learning Technologies. The subjects of Multimedia Design and Development, E-Learning, Mobile Learning and Games and Human Computer Interaction would be more appropriate as the graduates of this programme should be expected to be innovators in teaching and learning and use their expertise in Informatics to develop e-learning environments.

Mathematics seems to be a strong component of the programme, with the number of maths credits being more than the minimum required by law. One could reduce these requirements and instead emphasize more on subjects related to educational technology. Computer security, Internet safety, information privacy, IT operations management and administration and technologies and programming for mobile, web and database development are not covered.

Subjects such as Systems Analysis and Design, Database Systems and Advanced Databases are not addressed at the required level and the Computer Architecture and Organization course is at a very low level in architectural terms, *i.e.* it is essentially a computer design course. This would

be fine if there were later courses that built on this material to give a much higher level view of architecture but there are no such courses in this programme. A single computer architecture course in an informatics degree programme ought to give students an understanding of the broad range of computer systems that are in use today, from personal computers through to supercomputers and clouds. The absence of any internationally recognized textbooks in the reading list is indicative of the problem. There is a similar lack of internationally recognized texts in the reading list for the Computer Networks course. This too is a relatively low-level course that seems to be aimed at potential network technicians rather than future teachers. During the visit, the panel was told that informatics teachers in schools did indeed have to act as technicians and deal with hardware issues. The panel nevertheless feels that there ought to be some material at a higher level in these two courses.

3. Staff

The programme is delivered by 27 staff, 13 from the Department of Informatics (from among a total of 18 staff in the Department), 5 from the Department of Mathematics and 9 from Departments in other Faculties. 19 hold doctoral degrees, and one is currently studying for a PhD. 5 of the staff involved in the programme are professors, 8 are associate professors and 14 are lecturers. Thus the programme is provided by staff meeting legal requirements and the qualifications are adequate to ensure the intended programme and course learning outcomes.

Among the Informatics staff, there is 1 professor (who teaches a maths course), 4 associate professors and 8 lecturers. This correlates with the age profile:

Age	Overall	Informatics
25-34	18.5%	31%
35-44	29.6%	31%
45-54	14.8%	15%
55-64	22.2%	7%
>=65	14.8%	15%

The age profile means that there is adequate scope for staff turnover, though the informatics staff are relatively young, a situation which can have positive and negative consequences. The Department has undergone considerable upheaval during its history and a period of stability would be beneficial. However, this will only be possible if the serious issue of declining student numbers is addressed as a matter of urgency. Considering just the staff and student numbers involved in this programme, according to the SER, the current student/staff ratio is 3.4:1, which

is extremely generous by international standards and is clearly unsustainable. A consequence of this is that the staff numbers have already been decreasing during the past few years as staff who left were not replaced. Nevertheless, numbers are still adequate to ensure achievement of the intended learning outcomes.

During the visit it was explained that staff in the Department of Informatics provide service courses to other faculties, so that the overall student/staff ratio is of the order of 10:1, whilst staff in other Departments also teach on other programmes. The panel suggested that there might be opportunities for the Department to offer in-service training courses for current school teachers, since many informatics teachers do not have informatics qualifications.

Teachers in the University are employed and assessed according to the appropriate procedures. Staff have opportunities to develop professionally and some undertake international visits and exchanges or attend conferences abroad. Most list a respectable number of publications, though in many cases the majority of the publications are local or national rather than international. The costs of travel abroad restrict the extent to which staff can attend international conferences and engage in exchange visits.

The criticisms that the panel has regarding a number of aspects of the programme have to be laid at the door of the staff, however. The panel feels that the Department is operating in a rather closed and narrow environment, so that the programme content and delivery methods have not been developed to take account of changes in the worlds of teaching and computing, and that there is a rather complacent attitude toward the student numbers problem.

4. Facilities and learning resources

Classrooms and other office premises are adequate both in their size and quality for the studies. General accessibility and conditions for students with disabilities are satisfied.

Classroom multimedia and computer equipment is sufficient and even excessive by unit numbers comparing to the current number of students. However, about 30% of the computers in the classrooms are older than 5 years, meaning they are beyond the warranty period and insufficient in terms of their computing power for the modern software.

Internal computer network and internet are widely accessible in the premises including both cable and wireless infrastructure. Both classroom computers and personal devices, connected via wireless, can be used. Access to the global internet appeared to be relatively slow – at some

points during the visit it took seconds to load generally fast accessible internet pages, although this could have been the result of any one of a number of causes and subsequent measurements by the Department showed a download speed of 94.5 Mbps and an upload speed of 86 Mbps. Network throughput is sufficient for the needs of the study process and practical assignments.

There appeared to be serious drawbacks related to the maintenance of the computer equipment and network, leading to potential security gaps and vulnerabilities. Classroom workstations running Microsoft Windows are accessible by generic accounts with weak passwords and full administrator permissions. There is only basic freeware antivirus software installed, which provides only weak protection against malicious software and potential attacks, and no internet access control is enabled. The current situation leads to a high risk of infection or service interruption both for the workstations and the overall Faculty computer infrastructure. The panel recommends that the Department fixes the security gaps and vulnerabilities by introducing strict security policies, personalized student accounts with limited permissions, overall application of antivirus software. The Department responded to this criticism by pointing out that the Faculty uses Lenten Reborn card or Shadow defender software to restore the PC configuration after each reboot. Furthermore staff believe that strict permissions would reduce students' opportunities to test different software applications and different OS configuration variants. It was not clear to the panel that there are dedicated IT maintenance staff but the Department subsequently stated that IT maintenance is implemented by Faculty laboratory assistants (laborantai). The panel nevertheless recommends that the Department should consider introducing dedicated IT staff with clear computer equipment maintenance policies and responsibilities. The panel also recommends the Department should consider implementing a security model preventing the students from installing unauthorized software in the University infrastructure even temporarily since it may cause severe damage to the servers and overall infrastructure configuration.

The arrangements of the students' practical and laboratory equipment (computers, software tools) are generally adequate for the programme aims, although students favour more practice both of teaching at schools and software applications development with technologies demanded in the market, such as web or mobile.

The panel recommends that the Department considers providing students with more teaching practice at education institutions or during internal workshops.

The panel recommends that the Department improves the alignment of the learning materials, such as technologies and licensed software tools used during the studies, with the ones generally

available at schools and the ones that can be practically used by Informatics teachers for the development of learning materials at school (*e.g.* educational games, information web sites etc.).

It is a usual situation in Lithuanian schools that the Informatics teacher is responsible for the arrangement, administration and maintenances of the school computer classes. Therefore the panel recommends that the Department considers introducing a dedicated laboratory based on excess or older computer equipment for formal IT maintenance training and practical classes.

The availability of e-learning system and library materials are accepted by students and teachers as generally adequate and under continuous improvement. Although at the current stage there is no unified rule for the usage of the e-learning system Moodle, the Faculty e-learning system is not integrated to the LEU e-learning system, the structure of the published materials does not map directly to the courses of the study programme, since it reflects an outdated programme structure, and every lecturer considers whether to share the learning materials electronically on his/her own. The panel recommends that the Department integrates its e-learning system with the LEU e-learning system in order to improve students' awareness of other subjects, introduces unified rules for the mandatory usage of the e-learning system by all lectures in a similar way.

Sufficient library resources and access to numerous global e-libraries are available for the students. Students are not active users of either library books or e-library materials, since they find them less convenient to access compared with public internet resources or materials provided by teachers directly. That limits student learning materials level to the minimum required. The panel recommends that the Department considers additional communication to students about the library and global e-library resources availability and potential value they can provide to the students.

5. Study process and student assessment

The admission requirements are well-founded. However, admission numbers have fallen dramatically. A major cause of this is the obligatory State school informatics exam, which is an obstacle for pupils who would like to be teachers of informatics. As stated during the meetings, this study programme is about teachers with informatics knowledge and not vice versa. The panel noted that the University is already planning to introduce a new study programme, closely related to the existing programme, in physical sciences. The panel nevertheless recommends that the University continues to press the Ministry of Education and Science to remove the State school informatics requirement. The panel also suggests promoting this study programme in

schools by making presentations, sending students or even professors to teach some informatics lessons in schools, so as to attract more students.

The SER reports that three years' experience of motivation tests has shown that more and more students are choosing this study programme because of their aim to become school teachers. During the meeting with administrative staff this aim, to prepare teachers of informatics, was reiterated. However, this conflicts with the views expressed in the meeting with students – none of the students during the meeting could confidently say "I will be a teacher after I graduate".

The organisation of the study process does not fully ensure an adequate provision of the programme and the achievement of the intended learning outcomes. Firstly, the programme does not provide enough practice for students as stated in both meetings with graduates and undergraduates to work in general state schools. This conflicts with the aim of providing graduates with knowledge required to be able to teach in general state schools. In this context the panel recommends providing more teaching practice for students. The panel also recommends introducing group work in courses.

Secondly, the majority of undergraduates displayed poor social skills during the meeting, which is a typical for teachers, so the panel recommends developing students' social skills by organising social events, public coursework and other activities which develops social skills and eliminates fear of public speaking.

Thirdly, the Department and its teachers are not using e-learning consistently: names of subjects in the e-learning system are different from those which were provided to the panel and presumably to students, so the panel suggests full and consistent usage of e-learning.

Additionally the panel suggests introducing a first semester subject specifically to introduce students to this study programme, the benefits of being a teacher, why it is important to be a teacher, what is the national demand for teacher *etc*.

Students do not feel that they are encouraged enough to participate in research activities and lack awareness of such activities, as they are not mentioned in the SER and were not mentioned during the meetings. So the panel recommends at least introducing students to such activities, though it would be best if the Department could find research projects for the students and make them part of a course, this way encouraging them to participate in such activities.

Students have opportunities to participate in student mobility programmes. However, as stated in the SER and confirmed during the meetings, both with graduates and undergraduates, students of this study programme do not participate in mobility programmes because the majority of them have jobs and low levels of foreign language skills. So the panel recommends promoting mobility programmes and encouraging students to participate by talking about the benefits of these programmes, how they can help students' careers, how they can improve their teaching skills by bringing back good practice from abroad. The panel also suggests that attracting international students to study informatics education in Lithuania would increase admission numbers and create an international environment for home students.

The University should pay more attention to academic and social support. There do not appear to be any organised social facilities for students and students do not feel engaged with academic quality issues. Firstly, students do not appear to get and feedback about the changes that have been made to the study programme, environment or facilities, based on their responses to questionnaires. Secondly, students said they don't know where to address their issues because no one is listening to their opinion and the students' representative is inactive and doesn't care about students problems. Thirdly, students didn't know about life, related to teaching, outside the University. They said that the University doesn't provide such information, so the panel suggests promoting and encouraging students to participate in external events relevant to this study programme.

The assessment system of students' performance is clearly described in the SER and set out in detail in the course descriptions. However, students and graduates stated in the meetings that they do not understand the evaluation process. This may be a problem of the students' own making and the Department needs to do more to encourage students to actually read the documentation provided, or else in practice staff are not assessing student performance according to the stated criteria.

The subsequent professional activities of the majority of graduates do not meet the University's expectations. During the meeting with graduates there was not a single person who works in a school. Also during the meeting with undergraduates there was not a single student who could confidently say "I will be a teacher after I graduate". In addition there was no-one from a state school during the meeting with social partners. The panel suggests organizing a young teachers conference, for example, where young teachers could present themselves as successful role models for the students.

6. Programme management

The programme is managed and reviewed according to standard and established methods and techniques that involve all stakeholders, namely, teaching staff, students, graduates and employers. Furthermore, there is a very good hierarchical structure of committees and academic managers that oversee programme management at the University level, involving the Dean, the Vice Dean and Head of Departments and Faculty Council. The main responsibility for the programme management and review is with the Study Programme Committee, which includes all relevant stakeholders. However, programme management and review do not seem to happen in a systematic way and within the framework of established rules, regulations and procedures.

According to students, there is no formal and periodic student questionnaire survey to solicit feedback from them. Students reported that feedback is provided using a non-formal basis through discussions with their teachers.

There is also a weak link with the state schools and the Ministry of Education and Science. One would expect that such links would provide a two-way communication for influencing each other. As far as the social partners (IT-related employers) are concerned, there is no formal mechanism for receiving input/feedback. This happens on an ad-hoc basis however.

Alumni are invited to meetings/seminars organized at the Department and provide suggestions for improving the programme. One suggestion was to reduce the maths and increase the programming credits.

Overall, it seems that the programme follows an adequate process for programme review and management. Some documents and diagrams were provided during the visit, explaining this process. However the process needs to be better documented, regulated and executed. Furthermore the analyzed feedback from stakeholders and actions taken need to be formally recorded and, very importantly, communicated to the stakeholders so that they are aware of how their input was utilized.

III. RECOMMENDATIONS

1. The Department is encouraged to continue to press for dialogue with the Ministry regarding the entry requirements for the degree, classification of the programme and funding opportunities for the students.

2. The Department is encouraged to promote this programme to schools and to investigate further the employment prospects of its graduates across the whole of Lithuania; it was noticeable that there were no representatives from schools when the panel met with employers.

3. The panel recommends a number of changes to the curriculum: standardising course credit weighting to 5 or 6 ECTS; reducing the amount of mathematics in the degree to create space for more practical work in informatics and more teaching practice; introducing interdisciplinary technology education courses and modern developments such as mobile apps, both in its own teaching and as skills that its graduates can take into schools; updating the software programming courses towards the technologies and programming languages applicable to practical school needs, such as creating educational games and multimedia, web sites and database development; introducing mandatory practice with programming languages such as HTML/CSS, JavaScript, PHP, Ruby on Rails, Python, Java for Android and databases such as MySQL, PostgreSQL; introducing topics such as IT operations and maintenance, computer security, information privacy and safety in the Internet in order to enable graduates to administer and maintain computer environments at schools.

4. The Department is urged to encourage staff to seek to publish in conferences and journals outside of Lithuania.

5. Although there are adequate resources available to students, the Department needs to pay attention to the security and vulnerability of its computer systems and to ensure that its e-learning materials are properly aligned with its courses.

6. The Department is recommended to encourage its students to take part in student mobility programmes and to seek to attract foreign students to the programme.

7. The Department should make assessment consistent and according to the published methods and criteria and to ensure that students are aware of these.

8. The Department is recommended to find ways to improve students' social skills and to engage students in research activities.

9. The Faculty and the Department need to further develop their quality assurance mechanisms because although there are clearly informal mechanisms at work, it is increasingly necessary internationally to have auditable systems in place. The Department is therefore recommended: to set up formal arrangements through which it can engage in dialogue with its alumni, schools and employers regarding the aims and content of the study programme; to formalize further and use more systematically and regularly student surveys and questionnaires to solicit student input; to produce reports at all stages with regard to the analysis of feedback received from stakeholders and inform stakeholders of the actions taken.

IV. SUMMARY

The *Informatics Pedagogy* study programme provides a useful first-cycle qualification for the school needs of the Lithuanian schools and the society in general. The intended learning outcomes of the study programme correspond with the requirements of the European sixth level qualification structure, and are transparent and well defined. The name of the study programme is compatible with the aims and content of the study. However, there is only limited information published on the Web. Information about the aims, learning outcomes and curriculum is not accessible in English. The declining number of students is very worrying and needs to be addressed urgently.

The curriculum is balanced with regards to the pedagogy and informatics courses. However, in a degree such as this, one would expect the most important and state-of-the-art subjects, as well as more interdisciplinary subjects to be covered. The curriculum needs to be redesigned by reducing the number of mathematics credits, by updating software programming courses, addressing modern school needs with regards to informatics, focusing on educational technologies, database and web development, games and multimedia, as well as taking into consideration the further recommendations made by the panel in this report. Furthermore, the distribution of ECTS to the courses should be considered and a more standardised distribution (5 or 6 ECTS per course) should be adopted.

The programme is provided by staff meeting legal requirements and the qualifications are adequate to ensure the intended programme and course learning outcomes. The age profile of the staff means that there is adequate scope for staff turnover, though the Informatics staff are relatively young. Most staff have a respectable number of publications, though in many cases the majority of the publications are local or national rather than international. The panel therefore recommends that staff are further engaged in international research projects/collaborations and publish in international fora.

Classrooms and office spaces are adequate in size and quality for the studies. However, a large percentage of computer equipment in classes and labs is quite old and needs replacement. Local networks and Internet are widely accessible but access to the Internet was found to be relatively slow. Drawbacks related to the maintenance of the computer equipment and network were identified, leading to potential security gaps and vulnerabilities. This is mainly due to the lack of dedicated IT maintenance staff, responsible and accountable for the administration of the IT infrastructure and workstations. Sufficient library resources and access to numerous global e-

libraries are available for the students and adequate e-learning facilities are provided. However the lack of an integrated e-learning system/environment that can be used by all staff is a drawback. The panel thus recommends that the University invest more on the facilities and learning resources.

The organisation of the study process does not fully ensure an adequate provision of the programme and the achievement of the intended learning outcomes. The programme does not provide enough practice and group work for students and does not seem to achieve the development of social and teacher skills into students. Students seemed to be not interested in engaging in research activities, academic and other social activities and mobility programmes and were not enthusiastic about becoming teachers. There is weak participation of students in curriculum development in terms of input sought and provided. Although the assessment criteria are publicly available, there appears to be a disconnect between staff and student perception of how these are used. The panel thus recommends the Department finds ways to encourage and motivate students and engage them more in the programme, departmental and University activities and makes its processes and systems clearly apparent to students.

The programme is managed and reviewed according to standard and established methods and techniques that involve all stakeholders, namely, teaching staff, students and employers. However this does not seem to happen adequately and in a systematic way and within the framework of established rules, regulations and procedures. There is no formal and periodic student questionnaire survey to solicit feedback. There is a weak link with the state schools and the Ministry of Education and Science as well as with alumni and other social partners such as IT companies. Any feedback received from stakeholders and actions taken based on this are not formally recorded and communicated to them. The panel thus recommends that the Department further develops the quality assurance mechanisms and has an auditable system in place.

V. GENERAL ASSESSMENT

The study programme *Informatics Pedagogy* (state code – 612X13021) at Lithuanian University of Educational Sciences is given **positive** evaluation.

Study programme assessment in points by evaluation areas.

No.	Evaluation Area	Evaluation Area in Points*
1.	Programme aims and learning outcomes	3
2.	Curriculum design	2
3.	Staff	2
4.	Material resources	2
5.	Study process and assessment (student admission, study process student support, achievement assessment)	2
6.	Programme management (programme administration, internal quality assurance)	2
	Total:	**13**

*1 (unsatisfactory) - there are essential shortcomings that must be eliminated;

2 (satisfactory) - meets the established minimum requirements, needs improvement;

3 (good) - the field develops systematically, has distinctive features;

4 (very good) - the field is exceptionally good.

Grupės vadovas:
Team leader: Prof. Roland N. Ibbett

Grupės nariai:
Team members: Prof. Philippos Pouyioutas

Prof. Jürgen Dorn

Aleksej Kovaliov

Justinas Petravičius

Vertimas iš anglų kalbos

LIETUVOS EDUKOLOGIJOS UNIVERSITETO PIRMOSIOS PAKOPOS STUDIJŲ PROGRAMOS *INFORMATIKOS PEDAGOGIKA* (VALSTYBINIS KODAS – 612X13021) 2013-12-16 EKSPERTINIO VERTINIMO IŠVADŲ NR. SV4-555 IŠRAŠAS

<...>

V. APIBENDRINAMASIS ĮVERTINIMAS

Lietuvos edukologijos universiteto studijų programa *Informatikos pedagogika* (valstybinis kodas – 612X13021) vertinama **teigiamai**.

Eil. Nr.	Vertinimo sritis	Srities įvertinimas, balais*
1.	Programos tikslai ir numatomi studijų rezultatai	3
2.	Programos sandara	2
3.	Personalas	2
4.	Materialieji ištekliai	2
5.	Studijų eiga ir jos vertinimas	2
6.	Programos vadyba	2
	Iš viso:	**13**

* 1 - Nepatenkinamai (yra esminių trūkumų, kuriuos būtina pašalinti)
2 - Patenkinamai (tenkina minimalius reikalavimus, reikia tobulinti)
3 - Gerai (sistemiškai plėtojama sritis, turi savitų bruožų)
4 - Labai gerai (sritis yra išskirtinė)

IV. SANTRAUKA

Baigus *Informatikos pedagogikos* studijų programą yra suteikiama pirmosios pakopos kvalifikacija, kuri yra reikalinga atsižvelgiant į Lietuvos mokyklų ir apskritai visuomenės poreikius. Studijų programos numatomi studijų rezultatai atitinka Europos kvalifikacijų sąrangos 6-ojo lygmens reikalavimus, yra aiškūs ir tinkamai apibrėžti. Studijų programos pavadinimas dera su studijų programos tikslais ir turiniu. Vis dėlto aukštosios mokyklos interneto puslapyje yra pateikiama per mažai informacijos apie studijų programą. Pažymėtina, kad interneto puslapyje taip pat nėra pateikiama informacijos apie studijų programos tikslus, numatomus studijų rezultatus ir programos sandarą anglų kalba. Nerimą keliančiu veiksniu galima būtų įvardinti ir mažėjantį studentų skaičių; šią problemą reikėtų spręsti kuo skubiau.

Atkreiptinas dėmesys, kad pedagogikos ir informatikos studijų dalykai yra subalansuoti, tačiau tikimasi, kad tokio pobūdžio studijų programoje bus dėstomi patys svarbiausi ir moderniausi dalykai, taip pat kad studijų programa pasižymės didesne orientacija į tarpdalykiškumą. Studijų

dalykus reikėtų pertvarkyti sumažinant matematikai skirtų kreditų skaičių, atnaujinant programinės įrangos kūrimui skirtus studijų dalykus, siekiant atitikti šiuolaikinius mokyklos poreikius informatikai, daugiausia dėmesio skiriant į pedagogiką orientuotoms technologijoms, duomenų bazėms, interneto tinklalapiams, žaidimams ir multimedijai. Taip pat turėtų būti atsižvelgiama ir į kitas ekspertų grupės rekomendacijas pateiktas šiose išorinio vertinimo išvadose. Be to, reikėtų apsvarstyti ECTS kreditų studijų dalykams perskirstymo klausimą, patvirtinant standartizuotą kreditų skaičių (5 arba 6 ECTS kreditai vienam studijų dalykui).

Studijų programą vykdantis personalas atitinka teisės aktų reikalavimus. Akademinio personalo kvalifikacija yra pakankama numatomiems studijų rezultatams pasiekti. Dėstytojų amžiaus rodikliai indikuoja, kad personalo kaita galėtų būti didesnė, nors informatikos studijų dalykus dėstantys dėstytojai yra pakankamai jauno amžiaus. Daugelis darbuotojų nemažai publikuoja, tačiau didžioji dalis publikacijų yra skelbiamos aukštosios mokyklos arba šalies mastu, o ne tarptautiniuose leidiniuose. Atitinkamai ekspertų grupė rekomenduoja akademiniam personalui aktyviau dalyvauti tarptautiniuose mokslinių tyrimų projektuose ir publikuoti tarptautinėje erdvėje.

Auditorijų bei dėstytojams skirtų patalpų skaičius ir kokybė yra pakankami vykdomos studijų programos atžvilgiu. Vis dėlto atkreiptinas dėmesys, kad didelė dalis auditorijose ir laboratorijose esančios kompiuterinės įrangos yra pasenusi, ją reikėtų atnaujinti. Vidiniai tinklai ir internetas prieinami visiems, bet vizito metu ekspertų grupė pastebėjo, kad internetas veikia pakankamai lėtai. Taip pat buvo nustatyti trūkumai, susiję su kompiuterinės įrangos ir tinko eksploatacija, tai gali turėti įtakos saugumo spragų radimuisi ir pažeidžiamumui. Minėtųjų trūkumų priežastimi galima būtų įvardinti atsidavusio aptarnaujančio informacinių technologijų personalo stoką. Bibliotekos išteklių studentams pakanka, be to, jie turi galimybę naudotis daugeliu pasaulio e-bibliotekų. Pažymėtina, kad studijų procese naudojamos tinkamos e-mokymosi priemonės, tačiau stokojama integruotos e-mokymosi sistemos / aplinkos, kuria galėtų naudotis visi darbuotojai. Atitinkamai ekspertų grupė rekomenduoja universitetui daugiau investuoti į materialiuosius išteklius.

Studijų eigos organizavimas ne visiškai užtikrina tinkamą programos vykdymą bei numatomų studijų rezultatų pasiekimą. Studijų programoje stokojama praktinės veiklos ir grupinių darbų, o tai sąlygoja ribotas galimybes įgyti socialinių ir pedagoginių įgūdžių. Ekspertų grupei vizito metu pasirodė, kad studentai nėra suinteresuoti dalyvauti mokslo tiriamojoje, akademinėje ar kitoje socialinėje veikloje bei judumo programose, taip pat nepanašu, kad jie labai norėtų tapti mokytojais. Studentų įsitraukimas į studijų programos tobulinimą nėra aktyvus. Nepaisant to,

kad studentų vertinimo kriterijai yra skelbiami viešai, dėstytojai ir studentai skirtingai supranta jų taikymą. Taigi, ekspertų grupė rekomenduoja katedrai ieškoti būdų, kaip paskatinti, motyvuoti studentus, labiau juos įtraukti į studijų programos vykdymą, katedros bei universiteto veiklą, taip pat studijų procesą orientuoti į aiškumą studentams.

Studijų programa vykdoma vadovaujantis universiteto patvirtintomis nuostatomis, įtraukiant į šį procesą pagrindinius socialinius dalininkus: dėstytojus, studentus ir darbdavius. Vis dėlto ekspertams vizito metu nepasirodė, kad studijų kokybės užtikrinimas yra vykdomas tinkamai ir sistemingai, laikantis nustatytų taisyklių ir procedūrų. Studentų apklausa, siekiant grįžtamojo ryšio gavimo, nėra formali ir periodiška. Taip pat reikėtų atkreipti dėmesį, kad ryšys su valstybinėmis mokyklomis, Lietuvos Respublikos švietimo ir mokslo ministerija, absolventais, informacinių technologijų kompanijomis yra silpnas. Socialinių dalininkų teikiamas grįžtamasis ryšys bei priemonės, kurių buvo imtasi juo remiantis, nėra dokumentuojami, atitinkamai apie tai nėra informuojami socialiniai dalininkai. Todėl ekspertų grupė rekomenduoja tęsti vidinės studijų kokybės užtikrinimo sistemos tobulinimą.

III. REKOMENDACIJOS

1. Katedra skatinama tęsti dialogą su Lietuvos Respublikos švietimo ir mokslo ministerija dėl priėmimo į studijas reikalavimų pakeitimo, programos vietos studijų krypčių ir šakų klasifikatoriuje ir studentų finansavimo galimybių.

2. Katedra skatinama populiarinti studijų programą mokyklose, toliau tirti absolventų įsidarbinimo galimybes visoje Lietuvoje; vizito metu ekspertų grupė atkreipė dėmesį, kad susitikime su darbdaviais nedalyvavo nei vienas mokyklos atstovas.

3. Ekspertų grupė rekomenduoja atlikti tokius pakeitimus studijų programos sandaroje: nustatyti 5 arba 6 ECTS kreditų skaičių kiekvienam studijų dalykui; sumažinti matematikos studijų dalykų skaičių, siekiant daugiau laiko skirti praktiniam darbui, susijusiam su informatika, taip pat mokymo praktikai; įtraukti į studijų programą tarpdalykinius technologijų mokymo studijų dalykus, taip pat mokymą apie šiuolaikines technologijas, tokias kaip mobiliosios aplikacijos, kurios ne tik plėstų studentų žinias, tačiau taip pat su jomis būtų supažindinami mokyklų mokiniai; atnaujinti programinės įrangos kūrimo studijų dalyką orientuojantis į mokyklų reikmėms pritaikytas technologijas bei programavimo kalbas, kaip pavyzdžius būtų galima paminėti, lavinamųjų žaidimų kūrimą ir multimediją, interneto puslapių ir duomenų bazių kūrimą; įtraukti privalomąją praktiką, kurios metu būtų mokomasi programavimo kalbų:

HTML/CSS, JavaScript, PHP, Ruby on Rails, Python, Java for Android, taip pat duomenų bazių: MySQL, PostgreSQL; įtraukti į studijų dalykus temas, susijusias su informacinių technologijų operacijomis, jų stebėjimu, kompiuterių saugumu, informacijos slaptumu ir saugumu internete, siekiant, kad absolventai gebėtų administruoti kompiuterinę aplinką mokyklose.

4. Katedra raginama skatinti darbuotojus aktyviau dalyvauti tarptautinėse konferencijose bei publikuoti tarptautiniuose moksliniuose žurnaluose.

5. Nors materialieji ištekliai studijų programos atžvilgiu yra pakankami, Katedra turėtų atkreipti dėmesį į savo kompiuterinės sistemos saugumą ir pažeidžiamumą bei užtikrinti, kad e-mokymosi medžiaga atitiktų studijų dalykus.

6. Katedrai rekomenduojama skatinti studentus aktyviau dalyvauti studentų judumo programose bei imtis priemonių siekiant į studijų programą pritraukti užsienio studentus.

7. Katedra turėtų užtikrinti, kad studentų vertinimas būtų nuoseklus, atitiktų paskelbtus metodus bei kriterijus, taip pat atkreiptinas dėmesys, kad studentai su vertinimo kriterijais turėtų būti supažindinami.

8. Katedrai rekomenduojama pasitelkti priemones studentų socialinių įgūdžių ugdymui bei studentų įtraukimui į mokslo tiriamąją veiklą.

9. Fakultetas ir katedra turėtų tęsti studijų kokybės užtikrinimo mechanizmų tobulinimą. Nepaisant to, kad neformalus studijų kokybės užtikrinimas egzistuoja, yra būtina, ypatingai žvelgiant iš tarptautinės perspektyvos, tinkamai vykdyti ir formalų studijų kokybės užtikrinimą. Todėl katedrai rekomenduojama: organizuoti formalius absolventų, mokyklų atstovų ir kitų darbdavių susitikimus, kurių metu būtų aptariami studijų programos tikslai ir turinys; formalizuoti, sistemiškiau bei periodiškiau vykdyti studentų apklausas siekiant surinkti kiek įmanoma daugiau informacijos apie studijų programą; rengti ataskaitas apie socialinių dalininkų pateiktą grįžtamąjį ryšį bei juos informuoti apie grįžtamojo ryšio pagrindu atliktus veiksmus.

<…>

Paslaugos teikėjas patvirtina, jog yra susipažinęs su Lietuvos Respublikos baudžiamojo kodekso[1] 235 straipsnio, numatančio atsakomybę už melagingą ar žinomai neteisingai atliktą vertimą, reikalavimais.

[1] Žin., 2002, Nr.37-1341.