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#### INTRODUCTION

This report on the re-accreditation of the Polytechnic of Rijeka was written by the Expert Panel appointed by the Agency for Science and Higher Education, on the basis of the self-evaluation of the institution and supporting documentation and a visit to the institution.

Re-accreditation procedure performed by the Agency for Science and Higher Education (ASHE), a public body listed in EQAR (European Quality Assurance Register for Higher Education) and ENQA (European Association for Quality Assurance in Higher Education) full member, is obligatory once in five years for all higher education institutions working in the Republic of Croatia, in line with the Act on Quality Assurance in Higher Education.

The Expert Panel is appointed by the ASHE Accreditation Council, an independent expert body, to perform an independent peer-review-based evaluation of the institution and their study programs.

### The report contains:

- a brief analysis of the institutional advantages and disadvantages,
- a list of good practices found at the institution,
- recommendations for institutional improvement and measures to be implemented in the following period (and checked within a follow-up procedure), and
- detailed analysis of the compliance to the Standards and Criteria for Re-Accreditation

The members of the Expert Panel were:

- Professor Sunčica Oberman Peterka, Faculty of Economics J. J. Strossmayer
  University of Osijek
- Professor Heike Raddatz, Trier University of Applied Sciences
- Professor Dražen Vrhovski, VERN' University of Applied Sciences, Wawa d.o.o.
- Professor Haldor Jochim, Aachen University of Applied Sciences
- Cecilija Gečević, student, Marko Marulić Polytechnics of Knin

In the analysis of the documentation, site visit and writing of the report the Panel was supported by the ASHE staff:

- Maja Šegvić, coordinator
- Nika Matjanovski, support to the coordinator
- Goran Briški, translator

During the visit to the Institution the Expert Panel held meetings with the representatives of the following groups:

- The Management;
- The Working Group that compiled the Self-Evaluation;
- Committee for Quality Assurance;
- The students, i.e., a self-selected set of students present at the interview;
- The teachers
- The teaching assistants
- Meeting with Vice-Dean for teaching and Heads of Study programmes;
- Administrative staff.

The Expert Panel also had a tour of the dean's office, the library, IT rooms, student register desk, electrical engineering specialized classroom, chemistry lab and the classrooms at Polytechnic of Rijeka, where they held a brief question and answer session with the students who were present. The Expert Panel also had a tour of dislocated

premises in Pazin, Ogulin and Poreč where they visited wine cellars and the laboratories of the Agricultural Department.

Upon completion of re-accreditation procedure, the Accreditation Council renders its opinion on the basis of the Re-accreditation Report, an Assessment of Quality of the higher education institution and the Report of Fulfilment of Quantitative Criteria which is acquired by the Agency's information system.

Once the Accreditation Council renders its opinion, the Agency issues an Accreditation Recommendation by which the Agency recommends to the Minister of Science, Education and Sports to:

- 1. **issue a confirmation** to the higher education institution, which confirms that the higher education institution meets the requirements for performing the higher education activities or parts of activities, in case the Accreditation Recommendation is positive,
- 2. **deny a license** for performing the higher education activities or parts of activities to the higher education institution, in case the Accreditation Recommendation is negative, or
- 3. **issue a letter of recommendation** for the period up to three (3) years in which period the higher education institution should remove its deficiencies. For the higher education institution the letter of recommendation may include the suspension of student enrolment for the defined period.

The Accreditation Recommendation also includes an Assessment of Quality of the higher education institution as well as recommendations for quality development

SHORT DESCRIPTION OF THE EVALUATED INSTITUTION

NAME OF HIGHER EDUCATION INSTITUTION: Polytechnic of Rijeka

ADDRESS: Trpimirova 2, 51000 Rijeka

NAME OF THE HEAD OF HIGHER EDUCATION INSTITUTION: professor Dušan Rudić

ORGANISATIONAL STRUCTURE: By the statute of the Polytechnic of Rijeka its activities

are organized and carried out by departments, organizational units outside the

departments and in dean's offices. Departments represent organizational units of the

Polytechnic. A department performs activities mostly in one particular professional

scientific field. At the Polytechnic there are following departments: Business

Department, Transport Department, Agricultural Department and Occupational Safety

Department. Besides these, the Professional Study of Telematics is carried out as a

separate organizational unit.

LIST OF STUDY PROGRAMMES: Higher education at the Polytechnic of Rijeka is

provided through professional undergraduate studies and specialist professional

graduate studies. Transport Department organizes and performs professional

undergraduate studies Road Transport, Railroad Transport and Postal Transport in

Rijeka and Road Transport and Railroad Transport in Ogulin. Transport Department also

organizes specialist professional graduate study *Transport* in Rijeka.

Business Department organizes and performs professional undergraduate study

programme Information Science in Rijeka and Pula, professional study programme

Entrepreneurship in Rijeka and Pazin and specialist professional graduate studies

Business IT systems and Entrepreneurship in Rijeka.

Occupational Safety Department organizes and performs professional study

Occupational Safety and specialist professional graduate study Occupational Safety in

Rijeka.

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Agricultural Department organizes and performs professional undergraduate studies

Winemaking and Mediterranean Agriculture and specialist professional graduate study

programme Winemaking, all in Poreč.

Polytechnic in Rijeka also organizes and performs professional study programme

*Telematics* in Rijeka.

NUMBER OF STUDENTS: according to the data stated in the Self Evaluation document,

there are 1378 full-time students, 1430 part-time students and 163 students with the

status of *absolvent* 

NUMBER OF TEACHERS: 49 full-time teachers, 6 full-time assistants, 4 teachers in

cumulative employment and 66 external associates.

NUMBER OF SCIENTISTS: 16 full-time employed doctors of science, elected to teaching

grades, and 3 full-time doctors of science who are employed part-time in other

institutions.

TOTAL BUDGET: in 2012total business income was 24.041.227,98 HRK

MSES FUNDING: 13.362.848,38 HRK

OWN FUNDING: 10.070.150,79 HRK

SHORT DESCRIPTION OF HIGHER EDUCATION INSTITUTION:

Following a Decree on the establishment of the Polytechnic of Rijeka adopted on 21st

May 1998 by the Government of the Republic of Croatia, the Minister of Science and

Technology on 25<sup>th</sup> May 1998 issued a Decision on appointing an interim Chancellor of

the Polytechnic. On 24th July 1998 the Polytechnic of Rijeka was incorporated in the

Register of the Commercial Court of Rijeka, and the same year Polytechnic announced

the first Competition for the enrolment of students in the first year of studies in the

academic year 1998/1999.

All programmes of studies carried out since the academic year 2005/2006 have been

adapted and are in line with the Bologna process guidelines.

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Today the Polytechnic of Rijeka organizes and performs 12 professional study programmes and 5 specialist graduate professional study programmes.

# **CONCLUSIONS OF THE EXPERT PANEL**

#### ADVANTAGES OF THE INSTITUTION

- 1. Study programmes are well-placed in the labour market and popular with prospective students.
- 2. The study programmes follow serious and responsible consideration as well as a coherent strategy.
- 3. Level of expertise the students achieve;
- 4. Numerous bilateral agreements with various European countries;
- 5. Creative use of resources in some places.

#### DISADVANTAGES OF THE INSTITUTION

- 1. Lack of focus coupled with the somewhat generic development objectives;
- 2. Some programmes are oversubscribed;
- 3. Lack of international experience of teachers and management;
- 4. In the dislocated sites in Pazin and Ogulin teachers are just present during teaching hours.
- 5. The quality of the library is inappropriate;
- 6. Imbalance between overuse and underuse of facilities at different sites;
- 7. Supplementary resources for effective learning are also unevenly spread between programmes and locations.
- 8. The institution has not attracted students from other European countries so far, nor have sizeable numbers of students and teachers been abroad.

#### FEATURES OF GOOD PRACTICE

- 1. Well-documented rules for management and decision-making;
- 2. Policy of growth;
- 3. Development of human resources;
- 4. Solid base of some research activities;
- 5. Most study programmes have high sustainability and good prospects for the future.

#### RECOMMENDATIONS FOR IMPROVEMENT

# 1. Management of the Higher Education Institution and Quality Assurance

- More focused policies and plans, as well as the corresponding guidelines and procedures on how to meet them need to be set.
- More result-oriented approach should be exercised by the management as to scientific and research work.
- The incentive strategy should be expanded by including professional advancements.
- Dedicated project funds should be set up.

#### 2. Study Programmes

- Reducing student overload by restricting access to some programmes would help improve the quality of study programmes
- The quality of the study programmes varies. It should be an aim to secure equal qualities of courses.
- Pazin and Ogulin should be better integrated into university life.

#### 3. Students

- Inform students about study opportunities abroad.
- Improve information about study programmes for applicants from outside the Rijeka region.
- Set up an alumni organisation.

#### 4. Teachers

- The proportion of full-time teachers should be increased.
- Teaching staff should be continually educated.
- Teaching staff should be given adequate workload for their teaching activity for the benefit of research and publications.

# 5. \*Research and professional activity

- Research incubators and/or professional centres should be set up.
- Hire internationally renowned experts as departmental chairs.
- Stimulate academics to utilise the time available by undertaking scientific and research work in addition to their regular curricular activities.

#### 6. International Cooperation and Mobility

- The Polytechnic must increase its attractiveness for foreign teachers.
- The content of the agreements with foreign institutions should be better implemented and be perceptible in the daily work of the institution.

<sup>\*</sup> to be filled in by higher education institutions not listed in the Register of Scientific Organisations of MSES; related to the Criteria for the Assessment of Quality of Polytechnics and Colleges

#### 7. Resources, Administration, Space, Equipment and Finance

- Restrict access to those programmes which suffer from overcrowding.
- The library must be improved as to provide access to relevant journals and electronic sources and become a place where students can assemble and learn outside of classrooms.
- The equipment of some laboratories is very basic and must urgently be improved.
- Equipment that is needed often for teaching ought to be present at the institution, mainly at the dislocated facilities in Pazin and Ogulin.

# DETAILED ANALYSIS OF INSTITUTIONAL COMPLIANCE TO THE STANDARDS AND CRITERIA FOR RE-ACCREDITATION

# Institutional management and quality assurance

The Polytechnic of Rijeka (hereinafter Polytechnic) has developed a Strategic document for the period 2013-2020 as a continuation of the Strategy for the period 2008-2013. Management of the Polytechnic uses these documents as a base for operation and development of the Polytechnic. They have a clearly defined mission, vision, strategic goals and tasks, including performance measurement indicators. Heads of all departments were included in the process of writing these documents, as well as in the writing of the self-analysis which they consider a document that helps them to think about where they are now and what they need to change to achieve their vision. The majority of programmes are in line with the mission and vision statement, but there are some that are not and it was not clear what their vision is and how it fits in the vision of the Polytechnic. The Polytechnic has developed an effective organisational structure and processes and has formalised them in its legal documents. Such structure provides a

good basis for excellent teaching and fosters quality of all activities at the Polytechnic (1.1., 1.2., 1.3). The Polytechnic has a quality policy and all the other internal quality assurance ordinances. The Polytechnic regularly carries out quality assurance procedures described in the ordinances and it involves students and teachers in these processes. They have clearly defined procedures for these activities and use them on a regular basis. However, involvement of stakeholders in all strategic processes at the Polytechnic is missing and it was not clearly explained. Communication with the community should be regular and should be set as an important regular activity of all the departments of the Polytechnic (1.4., 1.5.). Stakeholders need to be involved in the processes of development of new programmes and other activities that are important to them, and that must not be left to the will of individual professors, but should be the way of doing things at the level of the entire institution.

Although the Polytechnic promotes research activity (through motivating teachers to do the PhD, covering scholarship costs, covering costs of going to 2 conferences per year, etc.) and stresses its importance, not all professors are aware of it, nor willing to participate in it. So, there is still a lot of space for improvement in this area (1.6.). Polytechnic should develop a Research Plan, as well as a mechanism for monitoring its fulfilment.

Ethical standards are in place at the Polytechnic level, governing teaching and research and it seemed that the majority of teachers and professors are acquainted with them. It remained unclear how efficient these procedures are and whether mechanisms for monitoring unethical behaviour are regularly implemented (1.7.).

All documents that are mentioned above can be found on the web site of the Polytechnic of Rijeka (http://www.veleri.hr/?q=node/16).

Overall, the peers recommend the Polytechnic to be more entrepreneurial. For instance, it is obvious that that the dislocated studies are not financially self-sustainable. The Polytechnic should consider stimulating students from Ogulin and Pazin to come to study in Rijeka and benefit from far greater influences that a city and higher education institution of that size may bring instead of staying at their small local communities, thus making those local branches dispensable in the long run.

# **Study programmes**

To a great extent, the Polytechnic has been successful in setting up study programmes that are well-placed in the labour market and popular with prospective students. On the face of it, most of the study programmes on offer seem to follow serious and responsible consideration as well as a coherent strategy. However, when the peers asked staff about market research prior to introducing the telematics course, it became clear that none had been done, so the success of some programmes may have been a piece of luck rather than a result of careful consideration.

The level of expertise the students achieve also appears to fulfil the expectations one may have towards an institution of this kind, though the peers wondered why the modern Traffic Management System and Fleet Management System introduced in the city of Rijeka do not appear to play a role in the curriculum at all.

Apart from that, there are a couple of other areas where the peers found elements only partly implemented.

Mainly, the criticism refers to the obvious fact that some programmes are oversubscribed, so that quality teaching cannot be secured in the way it could with less overload. That problem will again be dealt with in the Resources Chapter. Instead of employing more teachers, which is subject to restrictions at the moment, the Polytechnic could also restrict access to those programmes which suffer from overcrowding more strongly. (2.3)

Whereas some programmes conform to international standards without doubt, in other areas that is not obvious. In the interviews the heads of the departments could not in every case convincingly explain the quality of their programmes. That deficit may have to do with the general lack of international experience of teachers and management,

which is also referred to in the chapter dealing with international cooperation and mobility.

The peers see particular problems in the dislocated sites in Pazin and Ogulin, where teachers are just present during teaching hours, giving both locations the look-and-feel of schools rather than that of a higher education institution. (2.7)

In contrast, the panel was positively impressed by the courses on wine and olive oil making at Poreč. The Poreč branch showed top achievements at a major Croatian wine competition, excels in a curriculum which includes a great deal of practical work, achieves high employability of the graduated students and has a clear vision as to the further development of the Poreč facility.

As to the quality of teaching, most information available (interviews of management, teachers and students as well as probes of exam papers) point towards a positive assessment. However, the peers found the quality of the library inappropriate for an institution of this kind. Though some modern pieces could be found, material about several study programmes, for instance road and rail engineering, was sparse and severely outdated. (The opportunity to use the library of the University of Rijeka might improve the picture slightly, but experience shows that the spatial distance does prevent that library from being frequently used by the students.) The poor showing of the library put some doubt on the positive – or, perhaps, euphemistic - self-assessment of the institution and led the peers to remain on the side of caution.

## **Students**

The auditing of students' opinions took place in a large lecture theatre with many students present. Their distribution was representative for the courses of the polytechnic, so that valid opinions could be obtained.

The students were well aware that they study at a large institution that has capacity problems at various places. Their expectations were in line with the quality the organisation can deliver. Despite the high number of students in some courses, they appeared to have the impression of being taken account of individually by teachers and the administration of the polytechnic. The auditors learned that teachers give ample feedback as to the teaching and exam methods and are open for suggestions as to the improvement of teaching and teaching processes.

The Polytechnic has not so far shown much engagement in supporting extracurricular activities of the students. Particularly the students studying at one of the sites outside Rijeka have little opportunity to engage in extra-curricular activities sponsored by the Polytechnic. On the other hand, that may be seen in a different light for the students living in Rijeka, given the attractiveness of Rijeka as a relatively large city. From their own point of view, students did not seem to miss much in that respect, so that the university may well consider setting priorities in other areas.

During the auditing it also became clear that, though many of the students have some idea about their professional perspectives, the polytechnic contributes relatively little to that knowledge. For instance, students generally appeared not-so-well-informed about their prospects for going abroad for some time during their courses. Though auditors' impressions may well be influenced by the perception of the overload in some courses, which may make it more difficult to counsel each student individually, the auditors concluded that the Polytechnic could improve on that situation by applying a worked-out structured concept.

Another external aspect the peers have found is the Polytechnic's relative weakness of its contacts to the external environment. That refers to the information the public gets about what the Polytechnic does and to the contacts with its alumni.

It seems that most of the students rely on information by family members, friends and acquaintances for identifying their study subject as well as for deciding which university or polytechnic to attend rather than using information material by the Polytechnic.

Though that sort of informal information chain is not in itself bad, even appears to work well, some more effort for wider public information would be desirable, not least for diversifying the student intake.

Finally, there is currently no systematic analysis of where the students go and how successful they are after finishing their studies. Regular contacts to alumni would not only improve the Polytechnic's contact network, but would also offer direct advantages to today's students by giving them better opportunities for contacts to alumni of their own institution. The peers therefore strongly recommend the polytechnic to start building an alumni organisation to that end.

#### **Teachers**

In discussions with students as well as with teachers, professors and staff it became obvious that the entire workforce have a high motivation and teach with great commitment.

Despite continuous improvement of the teacher/student ratio in recent years the target ratio of 1:30 has not been achieved yet and thus needs to be improved further to provide sufficient teaching capacity. To this end a significant number of part-time teachers with external commitments have been employed. Although this measure supports the quality of hands-on teaching, it still makes sense to increase the proportion of full-time teachers for the benefit of continuous course teaching (4.1 and 4.3) and to decrease the external commitments of the teaching staff (4.6). The management seem to be aware of the fact that the teacher-student ratio and the employment of full-time teaching staff are closely linked with each other.

In addition, improvements are needed in education continuously offered to the teaching staff and in adequate workload for their teaching activity, so that they have more time for research and publications comparable to renowned European higher education institutions (4.4 and 4.5).

Generally, the teaching staff employed do a very good job. Considering organisational opportunities and limitations students get very good support from their teachers and the management, which is also reflected in the results of the course evaluations. They seem to try to do their best, but are limited by the financial resources granted by the Ministry in implementing all necessary improvements.

Nevertheless, when the peers visited the higher education institution it was clearly evident that the Polytechnic carries out a successful policy of growth and development of their human resources. From the point of view of the peers the research activity is solidly based and the study programmes are sustainable (4.2).

# Research and professional activity

Further to the development plans outlined in the self-evaluation document, the Polytechnic's management has also reaffirmed the "Strategic plan 2013-2020" as the key document defining its development plans. Although such documents are expected to reflect on the institution's competitive advantages with respect to its market, professional, scientific and other such capacities, the given plan does not provide indications on what activity, market niche or research field is seen as critical for improving the Polytechnic's scientific and professional profile. Taking into account that the Polytechnic has set up study programmes which may be considered pioneering both locally and regionally (eg. Telematics), the above lack of focus coupled with the somewhat generic development objectives (eg. increased number of academic staff holding a PhD degree) suggest that more focused policies and plans, as well as the corresponding guidelines and procedures on how to meet them need to be set.

Furthermore, the current student/teacher ratio suggests that the workload of the academic staff is rather high, leaving teachers with less time to concentrate on their research and professional activities. This however contradicts with the feedback from both senior and junior academics who find the workload far from unbearable. The

corresponding examples the expert panel has been introduced to include a teaching assistant supporting 10 modules finding his positions time-wise less demanding then the positions of their counterparts in the real sector. Given the Polytechnic's relatively poor output with respect to the number of peer-reviewed scientific publications, this may suggest that a more result-oriented approach should be exercised by the management which would stimulate academics to utilise the time available by undertaking scientific and research work in addition to their regular curricular activities. In this regard, as currently the corresponding incentives include only financial support for presenting at or attending to scientific conferences (each staff member is entitled to attending two conferences a year), it is recommended that the incentive strategy is expanded such that to include professional advancements, setting up dedicated project funds and other such measures.

Finally, even though both the management and the teaching staff maintain affirmative attitude towards the policies governing the Polytechnic's scientific and professional work, much more needs to be done to internationalise the achievements of the projects undertaken. As explained earlier, the Polytechnic's potentials to establish itself as a regional leader and internationally reputable institution in certain pioneering fields are high. It is hence recommended that more consideration is taken to materialise these potentials. These may include setting up research incubators and/or professional centres (eg. Centre for Traffic Accident Expertise), which would better utilise the stat-of-the-art facilities in Pazin, hiring internationally renowned experts as departmental chairs (eg. Telematics Department), and other such activities.

# International cooperation and mobility

In general, the peers found that the Polytechnic offers students from other higher education institutions good conditions to improve their mobility. (6.1)

The university has many international cooperations and relationships but the existing potential is still not fully used.

The possibilities offered by the ERASMUS programme are used by about three students per year, which represents only a very small percentage of the students enrolled. The motivation of the students to go abroad for completing parts of their courses must be improved.

Apart from the ERASMUS programme the Polytechnic has signed fifteen bilateral agreements with various European institutions. This is very commendable, but these contracts must be vitalised.

What contributes to this aspect is the fact that, because of the high teaching load of the full-time teachers and the external obligations of the part-time teachers, the willingness to teach abroad is low.

In addition, although the teaching staff have a high teaching motivation, the peers have found that there is still a need for improvement. (6.2 and 6.3)

The evaluation aspects mentioned next are closely related to one another and have shown comparable results.

As to point 6.4, the Polytechnic is open for international associations of similar institutions, but despite the numerous bilateral agreements nothing has been done.

Although students from neighbouring countries (e.g. Bosnia and Serbia) study at the Polytechnic, the institution has not attracted students from other European countries so far. The Polytechnic works hard to improve on this point and starts offering information in English and German on its homepage. (6.5)

Within the last 5 years the Polytechnic has been visited by just two foreign teachers (from Italy and Slovenia) for short periods of time. This is negligible in relation to the number of the bilateral agreements and less than in other comparable institutions. The Polytechnic must increase its attractiveness for foreign teachers. (6.6)

As already stated, the Polytechnic signed a great number of bilateral agreements with several European universities in the last couple of years. But 'collecting' agreements is not enough. The content of these agreements should be implemented and be perceptible in the daily work of the institution. (6.7)

Finally, the Polytechnic has a very good base from which to expand the existing international cooperation and very good opportunities to increase the international mobility of students, staff and professors of their own institution and from abroad.

# Resources: administration, space, equipment and finances

As to its resources, the Polytechnic shows a very incoherent picture. The institution does what it can to use its funds effectively and efficiently in order to improve the quality of its teaching, its study programmes and its administration.

However, it has been obvious to the peers that the Polytechnic has not been successful in all these areas in equal measure. Whereas classrooms, laboratory chambers and IT equipment appear sufficient and up-to-date, this cannot be said about the library, which is far too small and lacks adequate resources – books as well as journals and electronic sources - on several study programmes, and places where students can assemble and learn outside of classrooms. The equipment of laboratories does not have coherent standard either. The equipment of some of them is very basic. (7.1, 7.4, 7.6)

The same incoherence can be found in the provision of supplementary resources for effective learning. Whereas the agricultural facilities in Poreč are modern and show coherence in design and equipment, other facilities are small, lack adequate software (Telematics) or are outright non-existent (Transport). Though the usage of external laboratories can bridge that gap for a while, equipment that is needed often for teaching ought to be present at the institution. That will be a particular problem for the dislocated facilities in Pazin and Ogulin where there are only classrooms without any learning material. The peers feel that especially the facilities in Pazin are not used very efficiently; the (still unfinished) dormitory may possibly even remain unused by

students altogether. In the long term the imbalance between overuse and underuse of facilities at different sites may become a financial problem for the Polytechnic. In a more entrepreneurial mindset, one may consider to lease out some facilities to private users – which might even be eligible to public grants for economic promotion - and use the proceeds to finance scholarships for students moving to Rijeka. (7.5)