

The Polytechnic University of Bucharest
External Institutional Evaluation Report
2021

Introduction

I was invited by the Romanian Agency for Quality Assurance in Higher Education (ARACIS) to join the evaluation team for institutional evaluation of The Polytechnic University of Bucharest (PUB). Prior to the site visit, I studied the English version of the Self-Assessment Report (SAR) of the PUB. During the visit, which was carried out online due to the pandemic restrictions from March 29 to April 9, 2021, I had a good opportunity to enhance information I had received about the PUB and its operation.

The site visit started with preliminary online meeting of experts, members of the evaluation team. At this meeting, a preparation and harmonization of evaluation stages in the blended format was discussed. Then, online meetings with representatives of different positions within the PUB and beyond took place. During the above-mentioned period, I had a chance to meet the rector of the PUB, Prof. Mihnea Cosmin Costoiu and the president of the Senate, Prof. Tudor Prisecaru. After that, I also had a series of individual interviews with other top leaders of the PUB, namely the vice-rectors Prof. Adina Magda Florea, Prof. Valentin Navrapescu and Prof. Horia Necula. Besides, I held individual discussions with the dean Prof. Diana Robescu, the head of the department Prof. Laurentiu Dumitran, the Chair of the QA Prof. Mariana Mocanu, representatives of the teaching staff, International Office, students, and so on. During the whole period of evaluation, I also participated at several plenary/group meetings with representatives of the PUB's teaching staff, students, alumni and with employers of the PUB graduates.

During the site visit, I received additional documents related to some aspects of the operation of the PUB upon my request, which also helped me to complete the picture. Thanks to this, I had a chance to study materials related to leadership, management and governance, budgeting, study provision, research, internationalization, external relations, quality assurance and many other aspects of the operation of the PUB for the purpose of this evaluation.

I would like to express my gratefulness to Ms Mihaela Bajenaru, the ARACIS officer, for her very helpful support throughout the evaluation process. I also benefited from highly collegial approach of the whole team of evaluators led by Prof. Madalin Bunoiu, the head of the mission and Prof. Marius Gabriel Petrescu, the coordinator of the expert evaluators' team. Finally, I would like to sincerely thank to Prof. Mariana Mocanu for her support throughout the whole visit. It was all very helpful.

On the basis of the sources of information mentioned, I herewith submit my report on the PUB's institutional performance as I have perceived it. I am well aware this is a limited view by an external evaluator and a much deeper insight would be needed to really capture the essence of some evaluated issues. My evaluation, as well as my recommendations for possible consideration, should be understood as a collegial attempt to provide the PUB and the ARACIS with opinions aiming to contribute to possible improvements at the PUB and quality assurance of higher education of Romania.

Mission statement

The PUB is a public higher education institution, and it is well-established in the context of Romanian higher education.

The mission statement of the PUB is formulated clearly, it is sufficiently elaborated, ambitious and generally acceptable. The mission of the PUB is to have a three-fold focus. In particular, “to train specialists in different technical fields that are able to use valuable scientific, technical and cultural knowledge, to contribute to the technological, economic and social-cultural progress of the Romanian society and the contemporary world. The PUB ensures performant education, which is developed and perfected through a complex research activity, while continuing the tradition of the Polytechnic School of Bucharest, according to the exigencies and the means offered by the modern information society. It aims to create a new technical university profile, which promotes forms of training adapted to the requirements of a competing society, subject to the integration process in the European and international community” (website of the PUB).

On the one hand, as stated in the SAR, education and research are emphasised in its further elaboration – the mission is “centred to an equal extent on education and professional training, on scientific research, on the aim of production of knowledge and on creativity and innovation...” (the SAR, p. 23) On the other hand, one may find there some mentions related to the third role (public reach), too – to some extent pointing at utilisation of technological innovation, as well as the cultural dimension.

The mission statement of the PUB seems to be in a positive relation with the strategic objectives of the PUB. It has been stated that the following list of objectives is emphasised in the newly prepared strategic document of the PUB: (1) Maintain and develop skills in fundamental and engineering sciences, which are indispensable for the sustainability of technological development; (2) Develop soft skills, as well as social and relational skills; (3) Promote personal development of students; (4) Encourage the learning of modern languages; (5) Encourage student participation in mobility programmes; (6) Ensure ongoing dialogue with students; (7) Encourage extracurricular activities; (8) Develop volunteering; (9) Encourage graduates with the best professional results in becoming teachers.

I find these intentions complementary; they seem to be a promising basis for the construction and development of the PUB's activities.

Recommendation:

- *Make sure key strategic documents are available in English and publicly accessible.*

Academic freedom and academic integrity

The importance of the environment of ethics and academic integrity is pointed out in relation to implementation of the mission in the SAR of the PUB. (p. 13) Then, several principles have been stated in relation to this issue, for example, transparency of relationships with internal

and external partners; promotion of the organisational culture based on performance and integrity; stimulation of use of consultative and flexible working methods and techniques; existence of internal mechanism of assuring the integrity and elimination of conflict of interests; partnership with the public, including graduates; fight against corruption; and fast and flexible adaptation of new social and economic trends and requirements. (SAR, p. 21)

There is the Ethics and Academic Integrity Commission on site at the PUB, which points out values of university autonomy; academic freedom; personal freedom; professionalism; professional honesty; equal opportunities. The Code of Ethics and Academic Integrity has been developed as a document as well. Most of the documents, including annual reports are on the PUB's website (available only in Romanian).

The PUB uses an anti-plagiarism software to fight against intellectual frauds.

The PUB also pays attention to public liability and responsibility and a set of relevant aims was formulated in this context, including durable development of the PUB, academic cooperation, communication, balance with respect to the interests of the individual units of the PUB, internal collaboration within the PUB, academic climate of fair collaboration and so on. (the SAR, p. 22) The effort to strive towards these aims was proven during the interviews.

The bodies of the PUB seem to be established and operating in accordance with the legislation and they provide the faculties with the respective academic freedom.

Recommendation:

- *Consider publishing key documents related to academic freedom and academic integrity also in English.*

Organisation and management

The PUB is a well-established higher education institution. It consists of fifteen faculties and provides education to more than 30 thousand students (about 40% of them are female, according to some available data). The number of students has been growing in recent years.

It appears that management and administration of the PUB are well developed both vertically and horizontally, as well as in other directions across the university. There are three basic levels within the PUB's management structure: The University (Senate, Board of Administration), Faculties (Faculty Council), Departments (Department Councils). Some other bodies, such as the Council of Academic Doctoral Studies (University level) and Council of the Doctoral School (faculty level) are in place. The University Senate, which is composed of teachers as well as students (75%: 25%), is the superior governance forum.

The principles of organization of the PUB and its functioning are described in the University Charter and some other documents, as well as in the SAR. They are related to teaching, research, administrative structures, management structures and functions, institutional co-operation, university ethics, quality assurance and other relevant areas of the university operation. The electoral regulations stipulate a transparent procedure for electing the Rector, members of the University Senate and members of the Faculty Councils. The elections to managerial positions seem to be in line with the legislation. Most of the documentation is

available only in Romanian.

The Rector's team consists of five vice-rectors, the CSUD director and general administration director. The main areas of the PUB activities seem to be covered by these positions. The Deans' offices and university administration services are related to the strategic management structures of the PUB as well.

Students are represented in consultative, decision-making, and executive structures within the PUB. The university does not condition the status of a student representative by the level academic performance or attendance at courses, seminars, and work in laboratories.

Communication within the PUB is supported via integrated e-systems.

Strategic management plans include the ambition to be empathic, innovative, entrepreneurial, and financially independent university that operates in "Smart Campus" (environmentally friendly), it is well integrated in external contexts, anticipates emerging trends and flexibly responds to them. This was proven during the discussions with top leaders of the PUB.

Academic programmes and student management

The PUB currently offers a relatively wide range of study programmes at all three levels and it has developed specific criteria and standards for each level. The Faculty of Engineering in Foreign Languages offers programmes in English, French and German, some Bachelor and master's degree study programmes are taught in English at some other faculties as well.

On the bachelor's degree level, there has been certain systematisation and similar plan exists in relation to the master's degree programmes. The PUB has also been trying to correlate and validate the curricula of the programmes on an interdisciplinary level. As for the doctoral programmes, there are doctoral schools (14 such schools are located at the level of the faculties) and the research profile of these programmes is emphasised.

The PUB tends to develop some programmes in co-operation with foreign HEIs and/or in partnership with economic agents, such as, for instance, Renault Technologies Romania, Extreme Light Infrastructure and the like.

The PUB makes the overall effort to consult its study programmes and their development with the employers – this is done, among other ways, by the means of the consultative council involving employers. In the course of the interviews, it was also revealed that there are councils of employers in place at the faculty levels.

Besides, the PUB offers a number of courses within a life-long learning framework. These courses are provided to the wider professional and other public.

The academic programmes seem to be in compliance with PUB's mission statement, as well as with international standards. The quality, range and academic aims of the curriculum may be viewed as appropriate for the awarded academic degrees. The programmes seem to be well thought over and they are regularly monitored, evaluated, and updated when necessary.

The admission procedures are clear and in line with the legislation. They are described in detail in the SAR and they are publicly available. The admission of foreign students is specifically regulated. The PUB applies its own methodology as for the admission process and this is made public well before the application period. Admission preparatory courses are available to those interested and some other events for potential applicants are organized as well (such as the POLIFEST event, “Open gates” day, contests for pupils/students and so on). The PBU seems to pay enough attention to communication with those interested in its study programmes.

As for the rules and regulations related to assessment of student results, they seem to be clear and publicly accessible throughout all the study phases.

The PUB declares that the student-centred approach is the key didactic principle in the programmes concerned. This encourages students to develop theoretical knowledge, as well as practical skills. Attention is paid to internships in the programmes offered at the PUB. For example, there is a long-term internship in bachelor programmes (12-week practical stay at the end of the third year of study). The PUB has about 500 agreements with different economic entities for the purpose of student internships.

At the master’s degree level, research activity of the students is stipulated as compulsory.

Transversal and soft skills development is paid attention to within the programmes of the PUB, which needs to be appreciated too.

Generally, students have certain chance to make use of the mobility exchange programmes in the course of their studies. From the interviews and documentation available, it seems the mobilities could be made a more prominent part of the study experience of the students, especially on the upper levels of studies, though.

Student support is realised in different ways at the PUB with the effort to decrease the drop-out rate (extra courses, student counselling). Tutoring system for bachelor and master’s degree students is available to help students integrate into academic education. Career counselling is in place (via services of the Centre for Counselling and Career Orientation) at the PBU. It is focused on current PUB students and alumni, as well as secondary school students interested in technical studies.

Students’ organisations are involved in development of a number of activities supporting student learning, as well as social life at the PUB.

Recommendation:

- *Consider the possibilities of strengthening the importance of international experience (longer-lasting study stays) for students, especially for the PhD students in their programmes.*

Internationalisation

At the PUB, learning/teaching and research are profiled as activities which reflect and include international dimension and there is a tendency to foster this profile and international dimension of key activities. Internationalisation is managed both at the level of the university (vice-rector) and at the level of the faculty (vice-dean).

The PUB has a considerable number of bilateral cooperation contracts with universities in Europe and beyond, as well as a high number of cooperation partners. The PUB documentation as well as interviews with the staff and students brought the evidence about mobility and other academic exchange activities. These activities take place not only within the framework of different EU programmes (typically, ERASMUS, but also bilateral agreements), but also within the framework of other schemes. Similarly, this may be seen in the case of research (see the chapter on research for more details).

As it has already been stated, the PUB also provides some study programmes in foreign languages, which increases the potential of internationalisation within the institution. There may be found some examples of efforts to integrate Romanian and non-Romanian students within the PUB (cultural events and more).

The English version of the PUB's website as well as the International Office at the PUB supports the internationalisation efforts of the PUB.

Recommendation:

- *Consider some more possibilities to support integration of Romanian and foreign students at the PUB, to fully use the potential of a culturally rich student body at the PUB and avoid what is usually called “a myth of internationalization at the HEIs”.*

Research

It seems to be evident that the PBU has focused on research as one of the strong pillars of its operation. Such focus is confirmed in strategic documents of the institution, in action-related plans and their direction, as well as in research results. The objectives of research development at the PUB are clear and ambitious. They include consolidating international reputation, consolidating research institute support in obtaining patents and trading with them, setting up the topics in line with European research priorities, supporting staff in designing research projects, focusing on research activities with economic relevance, carrying out the think tank and supporting entrepreneurial activities of the PBU and so on. (the SAR, p. 99-100) Action plans and directions attracting top students into the research group are mentioned as well.

The research results that the PBU achieved are projected in its very solid position in some international rankings (the SCImago Institutions Rankings [SIR]).

The PBU has been gradually improving its research infrastructure too – via a considerable number of large projects as well as in other ways.

It is important to mention that the PUB has a special platform for administration of the research activity and increase of visibility of the research (CRESCDI).

The PUB is clearly focused not only on acquiring research funding nationally, but also internationally (mainly from the EU funds) and it strives for synergies between its aims and activities and the ones emphasised on the international scene. The PBU is thus integrated in some international research-development-innovation networks of technological transfer and competitiveness poles, as well as in innovative clusters (for instance the Fraunhofer network, the Danube TransferCenters network). It may be generally said the internationalisation of the research at the PBU is evident.

The research is carried out at faculties, departments, doctoral schools and research centres. Each academic is expected to be involved in research and this is regulated by the internal documentation of the PUB.

Some research infrastructures seem to be playing a specific role of research enhancement – CAMPUS (Centre for Advanced Research for Innovative Materials, Products and Processes), PRECIS (Infrastructure of Research for the Development of Intelligent Innovative Products, Processes and Services) and so on.

The research agenda is explicitly the agenda of one of the vice-rectors and at each faculty it is the agenda of one of the vice-deans. This includes integration of students into the research too. The Management Direction of the Scientific Activity seems to be playing an important role within the PUB in terms of research management.

Ethical considerations related to the research are taken into account at the PUB as well – the Commission of Ethics and Academic Integrity and certain functions have been established for this purpose.

According to the SAR, there are 70 research units at the PBU. Academic culture centred on research and a positive climate in favour of this activity are emphasised (SAR, p. 115) which was proven during the interviews as well.

It may be appreciated that there have been efforts to link teaching to research and involve students (especially, but not exclusively on the PhD level) in senior research projects and other activities.

Besides, there is also an evidence of the support of student research by the PUB (research grants, student research conferences and so on).

The issue of transfer of research into the broader society is dealt with at the PUB, too. The tendency to improve the flow in this direction by creating spin-offs and support start-ups is part of this package.

A considerable number of research projects indicates the positive orientation of the PUB towards the research and its relatively strong position within the academic community in Romania and beyond.

Recommendations:

- *Consider the possibilities of introducing granting schemes that would make it easier for some researchers to return to/re-connect their career (for instance those returning*

- after parental leave).*
- Consider the possibilities of training supervisors of students (supervising their theses, dissertations) in supervisory skills.*
- Consider the possibilities of attracting more international researchers into the postdoc positions at the PUB.*

Staff

The PUB has a significant number of highly qualified members of the academic staff, namely in the positions of professors and associate professors.

According to the SAR (p. 8), there is a total number of 1.138 members of the academic staff with open-ended contracts, out of which there are 312 professors, 325 associate professors, 460 lecturers, 41 university assistants at the PUB. Besides this academic body, there are 575 members of associated staff (doctoral candidates, experts from the industry or research, retired professors from the PUB and so on). Recently, there has been visible investment into the human resources, including PhD students and postdocs at the PUB. According to some data available, there are about 40% of professors younger than 40 years of age at the PUB.

The PUB staff is typically appointed on the basis of competition. Regular evaluations/assessments are a common part of working with the staff. They include self-evaluation, peer evaluation and evaluation by the students based on the forms approved by the senate (SAR, p. 142). There is also the evaluation performed annually by the university management. The academic staff's performance and its evaluation are also related to the research performance.

The teacher-student ratio varies from 1:7 to 1:30, depending on the current programme at the PUB. The maximum teaching load at the PUB the staff member may have should not exceed 1.5-time jobs.

The promotion policies include the analysis of the performance of the staff in teaching, research and also in services to the university and the community. The three-fold nature of the mission of the university is projected into the individual academic level.

Professional development activities take place at the PUB in a number of directions and forms. Academic staff is trained in several basic areas, which include the use of new teaching technologies and also courses of teaching/didactical methodology (the latter concerns mainly the junior teaching staff). Administrative staff is also trained via courses in different areas.

During the interviews, students and alumni were very positive about the academic staff as well as about the administrative support.

Recommendation:

- Consider the possibilities of providing management training to leaders at different levels of the PUB structure (for instance, departments).*

Finance and infrastructure/Space and equipment

The PUB is financed from several resources: the state budget, extra-budgetary revenues, revenues from research activities, revenues from economic activities and funds from other sources. The institution has an annual budget in line with the financial policy of the PUB and on the general level, financial matters are coordinated by the general administration director.

The budgeting is centralised in a significant extent and the measures adopted seem to ensure that all units operate in a relatively reasonable financial backing. This puts a lot of responsibility and pressure on the decision-making bodies on the central level and also high demands on the communication between/across different levels and positions within the PUB. Project financing is done in different ways with respect to the responsibilities of those who carry them out.

A portfolio of scholarships is available to the PUB students. They include merit-based scholarships, scholarships for students in a vulnerable situation, scholarships for excellent study results and some other special scholarships supporting student activities, including research and mobilities. The PUB also offers a scholarship programme for excellent international students and citizens of non-EU states. The PUB also provides other ways of financial support for students, which include free accommodation for the children of students, free accommodation for student who are orphans, milieu-deprived students, etc. It may be stated that these are positive indicators of the PUB social function.

The PUB has a large university campus, which seems to provide necessary space to all its units. According to the interview respondents, the equipment is on a satisfactory level. The PUB also has a number of facilities, such as hostels, canteens, sport facilities, medical centre, church and other facilities for the students and staff.

A number of investments have been made by the PUB in recent years, including those financed with the loan from the EU (European Development Bank) and some other investments are planned - not only the facilities and their equipment, but also media (Tv channel Euronews Romania), etc. The PUB has also invested into the services that make life of some staff easier (for example, the kindergarten, primary school, dormitories).

The PUB has the central library, as well as department libraries. They seem to provide sufficient study resources, both printed and in e-form, including relevant international databases. The central library is available online.

The PUB has an integrated e-system serving both students and the staff for administration of the main areas of their study/work. The level of digitalisation of daily operations at the PUB seems to be up to date.

Due to the pandemic restrictions, I could not visit the above-mentioned premises and facilities in person, my findings are based on the documentation and other information resources provided by the PUB, as well as from the interviews.

Recommendation:

- *Keep considering ways of creating easily accessible and solid study conditions for SEN students, wherever possible.*

Quality management

The PUB seems to pay sufficient attention to quality assurance (QA) of main processes, the structure and processes of quality assurance are well developed there.

The Quality Council at the university level, Quality Commissions at the faculty level and working groups at the department level are the main operational structures for QA at the PUB. Internal auditors may be included into this set of QA-related bodies. Apart from this, the Commission for Evaluation and Assurance of Quality (CEAQ, established on the university level) was approved by the senate. This Commission coordinates the application of procedures and activities related to quality assurance according to the domains and criteria approved by the legislation. The CEAQ drafts annual report, which is then approved by the senate, and it makes proposals for possible improvements of the education quality specified in the action plan.

The SAR informs about a prominent place of the QA in its Managerial Plan 2020-2024 (in Romanian only), which include strengthening evaluation processes and internal assurance of quality by increasing institutional capacity of the structures involved, involvement of all key actors, including students, involvement in international evaluations, promotion of transparency of these processes, relevant training and support of academic community members in the field, etc. (the SAR, p. 134) This was confirmed in the course of the interviews.

When implementing the QA of the programmes, a cross-faculty approach is adopted by the PUB as well. The PUB also appears to have a good practice at other HEIs, as well as positive feedback from students and external stakeholders (confirmed in the interviews). The PUB strives to work with a set of benchmarks for higher level of quality of teaching, learning and research in the respective fields, often under the umbrella of higher education development projects it has been involved in.

Rules for initiation, approval, monitoring and periodic evaluation are in place. Compliance of the diplomas and qualifications with respect to the legislation is ensured as well.

Apart from education/teaching activity, research performance is also subject to evaluation at the PUB.

There have been made some steps towards lower administrative load connected with the QA processes at the PUB by the means of the adoption of the e-platform (CRESCUDE), which should make use of different data easier.

It may be concluded that the quality management is well organized, contains a series of processes and is focused on relevant areas of evaluation and on possibilities of improvement.

Recommendations:

- *Consider the possibility of informing students about what happens with their feedback.*
- *Consider the possibility for a teacher to respond to individual student feedback in an*

individualized way (electronically).

Final recommendation

I recommend providing the PUB with institutional accreditation with the rating of High Confidence.

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