

## QUALITY ASSURANCE IN THE HIGHER EDUCATION IN NORTH MACEDONIA: CHALLENGES AND KEY TRENDS

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### ABSTRACT

In recent years the universities have been focusing much attention on quality assurance. This paper features a look at higher education's quality, an initial analysis of academic expectations in higher education system and challenges, on some of the key trends based on updated data and recommendations for the universities. This paper will explore about the key drivers for the Macedonian universities that should be pursuing in relation to the Quality Assurance in the Higher Education, Digitally Enhanced Learning and Teaching, Research-based Knowledge and Open Science, Smart Environments and Education, Tools, Methods and Methodologies in Quality Assurance, Innovation-reasoning, Sustainability, and Process Improvement. The North Macedonia must look ahead and offer an excellent knowledge-based and value-based universities while promoting improved values, sustainability performance and well-being of the global community through promote the free circulation of knowledge and gaining a competitive advantage. It will depend on the three factors: creating of quality assurance framework at the universities (consists of a contemporary model of student-centered learning, open and inclusive university, structural and effective cooperation between higher education institutions, public and private sector, and citizens, and founded on the principle of social responsibility), hope-based university leadership and well-structured program funding.

**Keywords:** quality assurance, learning, teaching, smart education, innovation.

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## **INTRODUCTION**

In the decade ahead, the universities will face many challenges, difficulties and contingencies, which require a systematic and methodological approach in ensuring quality in higher education in the 21st century. The number of disruptive factors in the socio-economic life are becoming more dynamic, more complex, continuous, some of them unpredictable, which requires increased commitment and agility of the universities. Universities are expected to be strong, transparent, effective and self-responsible, autonomous, to nurture their traditional and advanced values, while the learning and acquiring knowledge, teaching, research, development of innovative practices and culture of quality to be put in favor of the social and global need (Velkoska and Tomov 2021). Since the universities always operate in conditions and environment of proactive thinking and innovating solutions, they their missions, ethical principles, core values, education, research-development, quality policy, satisfaction policy, and resources policy, as well as university's relationship with society they should put them in function of contemporary expectations for knowledge-based and value-based society for superior sustainable-driven performance. In the future, universities will inevitably continue to develop human creativity and learning (EUA, 2021 February), in an environment in which the previous prefabrication of knowledge will be replaced by knowledge sharing and critical thinking in the process of teaching, learning and research. The universities must clearly demonstrate their coherent strategy of quality including core values and objectives. Therefore, they must know and analyze the main challenges and difficulties, the current policies in higher education at the national and global level, and the promoted positive practices.

## **REVIEW OF THE CURRENT SITUATION IN HIGHER EDUCATION**

### **Values, objectives, and public policies in the higher education**

Education is essential part to the peace of social, political and economic development of any nation, for empowerment of people and the most important millstone of the knowledge-based and result-oriented economy, and sustainability-driven community. So that core values, sustainable objectives and forward-looking educational policies can be defined, the

universities should familiar the challenges, the key trends and future expectations, as well the established public policies in fast-moving world. So far, the most worrisome challenges can be presented (EUA, 2021 February):

- the climate crisis and sustainability are urgent issues,
- the technical- technological developments that influence and disrupt labour markets,
- the democracy (freedom of expression) and political systems are surviving under pressure,
- the lack of public debate with the correct information (fabricated evidence),
- the impact of the research, innovation, and education in geopolitics,
- the education is concerned due to the geopolitical changes, social disparities, demographic changes,
- a lack of funding, and
- rapid global digitalization.

Generally, we are currently facing deep social, ecological, and economic challenges, aggravated by the ongoing coronavirus crisis and assumptions about future similar pandemics. The world's recovery is a urged priority, while the green and digital transitions (twin transition) are the most significant factors (EC, 2020 September). The priorities for action in the universities are reform of the academic careers, interdisciplinary approaches and enhancing civic engagement (EUA, 2021 February). Higher education is continuously subjected to research to redefine values, objectives, and policies in the European Higher Educational Area (EHEA). In present time, Europa University Association (EUA) have established the values of universities: *academic freedom, academic integrity, institutional autonomy, freedom of speech, inclusivity, diversity, equality and equity, sustainability, solidarity, promotion of creativity and critical thinking* (EUA, 2020 June), while the following development objectives have been established for sustainable long-term economic, social, and environmental progress of countries (EC, 2020 September):

- ❖ The European Union has set itself ambitious goals to achieve climate neutrality by 2050, at least 55% reduction in greenhouse emissions by 2030 compared to 1990.

- ❖ Promoted Europe’s Digital Decade for improving digital skills. This especially came to the fore with the covid crisis, showing the significance of state-of-art digital technologies, for the resilience of the world economy and societies.
- ❖ A new European Research Area (ERA) will need to support its green and digital transitions and will deliver by the end of 2024, support for researcher’s careers with the following components: *A Researchers Competence Framework*, and *A Mobility Scheme* to support exchange between industry and academia.

There are many public policies and regulations that have contributed to the development of quality assurance in higher education. This is a list of some of them:

- Twenty-four years after the Sorbonne Declaration (1998) was signed, the members of the Bologna Process have launched several initiatives to improve quality assurance (EC, 2018).
- Incheon Declaration (2015) confirms commitment to promoting quality lifelong learning opportunities for all, in all settings and at all levels of education with due attention to quality assurance (Žalėniene and Pereira 2021).
- In 2015, the United Nations General Assembly adopted 17 Sustainable Development Goals (SDGs) to be achieved by 2030. The aim of these seventeen goals is “to secure a sustainable, peaceful, prosperous and equitable life on earth for everyone now and in the future” (Žalėniene and Pereira 2021)
- In the Rome Declaration (2017), EU leaders committed to work for “a Union where young people receive the best education and training and can study and find jobs across the continent” (EC, 2018).
- At the Ministerial Conference in Paris (2018), the ministers responsible for higher education make strong and ambitious commitments for its further development, to engage on topics of inclusiveness in higher education and the social responsibility of universities. (EC, 2018).
- European Commission (EC) adopted Digital Agenda for the Western Balkans (2018) that promotes investing in broadband connectivity, increasing cybersecurity, trust, and digitalization of

industry, strengthening the digital economy and society, boosting research and innovation. (EC, 2018, September 17).

- European Association for Quality Assurance in Higher Education (ENQA) adopted the 3rd Strategic Plan for ENQA (2021–2025). A key goal of the Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG) is to contribute to the common understanding of quality assurance for learning and teaching, through establishing a set of shared principles, across borders and among all stakeholders (ENQA, 2022).
- A Communication on Achieving the European Education Area by 2025 (published by EC), covers six dimensions in education: quality of education and training, teachers and trainers, higher education, inclusion and gender equality, green and digital transitions, and geopolitical dimension (EUA, 2020 October 30).
- Digital Education Action Plan (2021-2027) that promotes fostering the development of a high-performing digital education ecosystem and training for the digital age (EC, 2020 September 30).
- The first survey conducted among higher education institutions across the EHEA on greening and environmental sustainability (EUA, 2021 September 16).
- The Republic of North Macedonia: Education strategy for 2018-2025 and Action Plan (UNESCO, 2022).

### Quality of higher education

Maintaining and assuring the quality of higher education is related to the various understandings of quality due to expectations of very different groups such as: course design elements, stakeholders' perceptions, quantifiable elements, and external standards (Akareem and Hossain 2016), and different perspectives such as: quality management, quality work, quality culture (Elken and Stensaker 2018), and sustainability (Tomov and Velkoska 2022). The higher education quality implies *transcendent quality* (reputation of academic staff), *manufacturing-based quality* (conformance to specifications), *product-based quality* (increased student learning), *value-based quality*, *user-based quality* (students' needs) and *competition-based quality* (Akareem and Hossain 2016). Some authors proposed five ways of thinking about quality: *quality as exceptional/excellence* (achieving the highest standards), *quality as*

*perfection or consistency* (flawless outcome with zero errors), *quality as fitness for purpose* (satisfying needs), *quality as value for money* (cost-effective), and *quality as transformation* (continuous improvement) (Niedermeier 2017).

### **Quality assurance in the higher education**

Quality of education is becoming one of the elements of formation of strategy of education in the academic institutions in the North of Macedonia and beyond. Quality assurance in higher education has become a global phenomenon. That is why higher education has been set global goals that present “the bigger picture” of quality in education: achieving excellence, ensure equity, promoting well-being and enhancing public confidence.

The universities should develop the concepts of quality and quality assurance (Tomov and Velkoska 2021; Velkoska 2022), provide necessary and deeper understanding and information on quality assurance system related to the teaching and learning, student admission, student assessment, research, student mobility, curriculum, etc. (Keçetep and Özkan 2014). They are subject to increased expectations from students, academic staff, students' parents, employers, government bodies, non-government organizations, media, and community – which could be described as public accountability. Therefore, quality assurance is an important and significant part of accountability. To understand how quality may be built into a product or service, at any stage, it is necessary to examine the two distinct, but interrelated aspects of quality: Quality of design, and Quality of conformance to design (Oakland 2014). For most higher education institutions, under the term products imply bachelor's, master's and doctoral education, lifelong learning, research activity, and results of cooperation with practice (Vykydal et al. 2020). There must be a corporate understanding of quality of design and quality of conformance (Niedermeier 2017), so the basic model of quality assurance is determined by the following components: inputs (the gained insights), process (to translate the requirements into outputs-products) and outputs, outcomes, and impacts (figure 1). Ensuring quality of design leads to competence, while ensuring quality of conformance leads to university success.

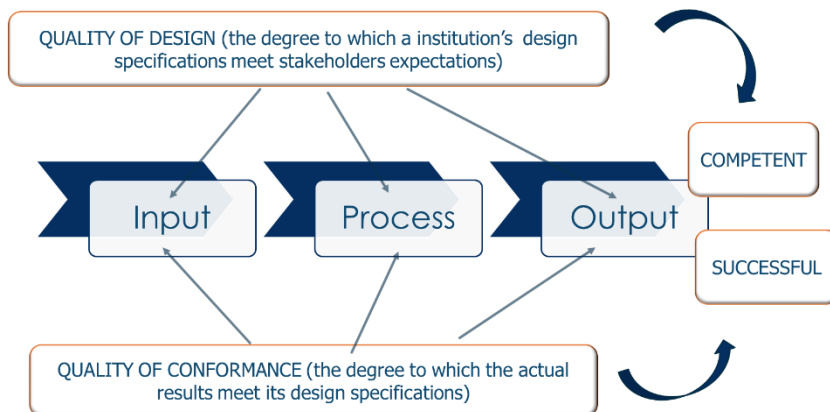


Figure 1. Quality of design and quality of conformance to design

### Innovation in the higher education

Innovation as a phenomenon is identified as a critical driver of business productivity, profitability, and economic advancement. Since higher education institutions are highly complex systems, the innovation is given at the macro, meso, and micro layers of higher education (Vaugh et al. 2022). The micro-level is the level of teaching and learning. The meso-level is the socio-cultural structure made up of faculties and their interactions, and the community in the institution. The macro-level implies strategy, governance, policies, and culture in the education institution. The universities should embrace new trends in the characteristics of innovation, according to recent research (EUA, 2019 March 8): *from linear to reiterative innovation* (basic and applied research can stimulate and enhance each other mutually), *from closed to open innovation* (including external partners), *from technological to systemic challenge-driven innovation* (related to digitalization and sustainable development), *from individual to collaborative and interdisciplinary innovation*, *from spontaneous to systematic innovation* (as key competences of innovators: critical thinking, curiosity, questioning of received expectations, and re-emerge), *from exchange-based innovation to co-creation in innovation spaces* (developing a common sense of regional strengths, potentials and challenges), and *from innovation projects to common innovation cultures* (belonging to a larger entrepreneurial agenda).

## Quality in the processes of the higher education performance

The universities have three core processes: *teaching*, *learning* and *research*. The output of teaching is learning, and the output of research is a contribution to knowledge. Current trends in education development processes are referred to as 3 “I”. The characteristics of the process development can be seen through the following understanding: *Iteration* (means that there normally are analysis-synthesis loops in the process), *Integration* (on the system level), and *Innovation* (new or changed process) (Persson 2016). The academic institutions require scientific approach, robust solutions and tools, methods, and methodology for process quality improvement. Using SPC (Statistical Process Control), SIPOC (Supplier-Input-Process-Output-Control), FMEA (Failure Mode and Effect Analysis), Cause and Effect Analysis, Process Mapping/Value Stream Mapping, Visual Management, Pareto Analysis, and Rapid Improvement Workshops can help in the development of sustainable higher quality educational process (Antony et al. 2012; Mazumder 2014; Selimi, Milošević, and Saračević 2018; Velkoska, Tomov, and Kuzinovski 2018). The most used inductive-deductive iterations for processes improvement in the education are: PDCA method (Plan-Do-Check-Act) and DMAIC (Define-Measure-Analyze-Improve-Control) as a data-driven quality strategies for improving processes (Kremcheeva and Kremcheev 2019; Velkoska 2022). Universities are promoting new managerial approaches and methodologies to their process improvement, such as: *Six-sigma approach* (structured approach that they aim to use to improve the outcomes of an educational institutions), *Lean philosophy* (a powerful business process improvement methodology to minimize and eliminate different forms of waste or non-value added activities), *Lean Six Sigma approach* (integrates the human and process aspects of the process improvement) (M. Vijaya 2016; Nadeau 2017; Svensson et al. 2015) and *Green Lean Six Sigma approach* (aims to enhance metrics like quality, process efficiency, customer satisfaction profitability, and responsiveness with green objectives and initiatives) (Razalli et al. 2020). They are well-known and widely used in the services and manufacturing industries where have shown a high success rate, but rarely in the education sector.



## **Smart Education**

Smart learning environment research is gaining attention in recent years. There are various definitions of smart education. In the broader sense the smart education is a concept of learning in the digital age, to create intelligent environments, empower learners to develop better value orientation, higher thinking quality, and stronger conduct ability, providing personalized education to people with disabilities. In the list of the well-known main information technologies for smart education are included: learning management systems, smart and virtual classrooms, cloud computing technology, extended reality, augmented reality, Web 2.0+, social networks, educational resources, academic and corporate tubes, e-books, and interactive books, learning and academic analytics, educational data mining, gesture-based computing, ambient intelligence, and educational robots (Demir, 2021). Digitally enhanced learning and teaching has provided a new vision for educational systems and enables learners to learn more effectively, efficiently, flexibly, and comfortably, through developed framework that describes three essential elements in smart education: smart environments, smart pedagogy, and smart learner (Zhu et al. 2016). According to the research study in EHEA (EUA, 2021 January 21), over 90% of the educational institutions address general digital literacy, study-field specific skills, and see digitalization as a strategic priority for their teaching and learning processes and methods in the next five years.

## **Sustainability in the higher education**

The higher education plays a fundamental role and should promote the importance of the sustainability issues, enable a culture change, and develop curriculum based on the sustainability principles, with aim to address International Sustainable Development Agenda 2030. It means integration of sustainable development into the degree structure (modules), into the qualifications framework and learning outcomes, and into quality assurance. An analysis of the role and successful techniques in achieving SDGs into day-to-day practices of the higher education are considered in the study of Elmassah et al. (2021), that shows a growing institutional engagement, willingness to adapt their own activities, and to contribute to societies at large in achieving the sustainable development goals. Therefore, the quality frameworks and processes toward sustainable development in higher education require engagement of

university students in transformative learning. Transformative learning means critical reflection on the university students for problem-solving and decision-making approach, and a deep structural shift in the way how students experiences and interacts with the others in the environment (Janssens et al. 2022). However, several challenges and barriers at different levels in the higher institutions affect the successful creating a sustainable future in the society, since a concept of sustainability requires integrating needs of people, planet, and financial need of institutions in three key spheres: environment, society, and economy (Velkoska 2021; Velkoska and Tomov 2022; Žalėniene and Pereira 2021).

### **Research –based knowledge for smarter future**

Universities are key players in the world’s research and so research is one of the pillars of higher education. To mobilize research-based knowledge for a better and more sustainable universities is needed (EUA, 2020 March 5):

- To provide ambitious support to research and innovation,
- To invest in both curiosity-driven and mission-oriented research,
- To place new values, shape new objectives and priorities,
- To promote open science,
- To encourage diversity (background and disability),
- To facilitate partnership and collaboration,
- To foster talent with attractive career opportunities, and
- To encourage public engagement.

The aim of open science is to improve the attractiveness of researchers’ careers and to play a key role in engaging citizens in science. Two aspects are related to the open science: *scientific literacy* and *quality of the data*. The first means that the universities and the academic community need to foster public debate and scientific literacy. The latter refers to findings from recent research that show that organizations are spending more time and money than ever dealing with bad data quality. Digitalization of learning, management and communication systems create new possibilities for “big data” use and universities become a power player (Selim 2021; Beerkens 2022).

## CONCLUSION

The world is facing challenges and finding a sustainable equilibrium between ecological, economic, and social concerns, the digital and green transition. The North Macedonia must look ahead and paves the way to the next generation by offering an excellent knowledge-based society with top institutions and talent while promoting inclusiveness and democratic values. To realize the global goals in higher education in North Macedonia, Quality Assurance Framework of the Universities should consist of the following parts:

- A contemporary model of student-centered learning,
- Open and inclusive university,
- Structural and effective cooperation with public and private sector, and citizens,
- Founded on the principle of social responsibility.

The major objectives of the higher education institutions should remain (according to EC, 2020 September 30):

- Prioritizing investments and reforms: to accelerate the green and digital transformation and to increase competitiveness.
- The principle of excellence means that the best researchers with the best ideas obtain funding, improving access to excellence and nourishing talent for excellence.
- Translating Research/Innovation results into the economy for the citizens' well-being.
- Align efforts in accelerating global research.

The key deliverables of the higher education institutions should be in direction to contemporary teaching and learning, global research, innovation in all aspects of operation and enhancing culture of quality, hope-based university leadership that must respond to the unprecedented challenges and well-structured program funding. There are disadvantages in the process of achieving quality in higher education institutions that must be overcoming, such as:

- insufficient application of quality assurance tools and methods in action research on the universities, and
- quality of higher education is not easily expressed in quantifiable indicators, but in this time are needed revised indicators quality performance in new smart educational environment.

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