FEEDBACK

on the IQAA thematic analysis

‘The Quality of IT Education Programmes: Assessment and Improvement’

IT education is currently one of the most dynamic areas of higher education, as it is in this field that the content of educational programmes becomes obsolete most rapidly and requires constant updating. In this context, the IQAA thematic analysis ‘Quality of IT Education Programmes: Assessment and Improvement’ is of significant interest, as it examines not only the formal compliance of programmes with accreditation requirements, but also their ability to respond to contemporary technological, professional and market changes.

The analysis is based on a key challenge for higher education institutions: an IT educational programme should not merely be a set of subjects, but a flexible system for training specialists capable of working with modern programming languages, digital platforms, information systems, cybersecurity, artificial intelligence, telecommunications and new technological solutions. This is precisely why the authors’ reference to professional standards, the Atlas of New Professions in Kazakhstan and the actual requirements of the industry is of particular value.

The selection of 21 educational programmes for analysis highlights the diversity of approaches to training IT professionals at Kazakhstani higher education institutions. The programmes examined include both traditional fields related to software engineering, computing, information systems and telecommunications, as well as newer programmes in the areas of digital agricultural systems, immersive technologies, cybersecurity and computer science. This breadth demonstrates that IT education in Kazakhstan is gradually moving beyond the traditional training of programmers and becoming an interdisciplinary field linked to business, manufacturing, the agricultural sector, security and the digital economy.

Of particular importance is the conclusion regarding the need for fuller utilisation of professional standards and new professions. For IT disciplines, this is of fundamental importance, as the labour market is changing faster than traditional curricula. If educational programmes do not promptly incorporate competencies relating to digital twins, immersive technologies, machine learning, information security, mobile development and IT project management, there is a risk of a gap emerging between graduates’ training and employers’ actual expectations.

The content of the programmes is examined in considerable detail in the analysis. Grouping programmes into categories such as software development, information systems, telecommunications and innovative IT fields helps to highlight both the common features and the differences between higher education institutions. This approach is useful in that it allows for an assessment not only of the presence of subjects, but also of their relevance, practical focus, connection to professional tasks and ability to develop students’ comprehensive digital competences.

A practical focus is one of the key criteria for the quality of IT programmes. The analysis rightly emphasises the importance of collaboration with businesses, employers and the IT industry. To produce competitive graduates, it is not enough to study programming or information systems solely in an academic setting. Real-world projects, work placements, the involvement of practising professionals, industry case studies, team-based development, working with clients and updating course content to reflect current technological requirements are all essential.

Human resources capacity is regarded as a key factor in the sustainability of educational programmes. For IT programmes, the qualifications of teaching staff are particularly critical, as lecturers must not only possess a solid theoretical foundation but also understand modern development tools, the architecture of digital systems, cyber risks, cloud technologies, data analytics and industry practices. Therefore, recruiting practitioners as lecturers, enhancing the professional development of teaching staff, participation in research and applied projects, publication activity and collaboration with external clients must be regarded as essential prerequisites for quality.

Resource provision in the field of IT is of greater importance than in many other areas of training. Modern laboratories, licensed software, access to cloud services, equipment, network infrastructure, development environments and specialised platforms directly influence the quality of the teaching process. It is encouraging that the analysis notes the availability of the necessary material resources in a significant proportion of the programmes reviewed; however, it also highlights the need for further equipment upgrades and expanded cooperation with vendors.

The identified weaknesses deserve special attention. These include the incomplete application of professional standards, insufficient reference to the Atlas of New Professions, teething problems with new programmes, limited academic mobility of teaching staff, insufficient involvement of academic staff in funded research projects, and varying levels of material and technical resources. These observations are significant not as formal shortcomings, but as indications that the quality of IT programmes requires constant updating, external expert review and close links with the technological environment.

The recommendations arising from the analysis are practical in nature and can be utilised by higher education institutions when reviewing their study programmes. Of particular significance are the proposals to make more active use of the Atlas of New Professions, to utilise professional standards more thoroughly, to strengthen cooperation with employers, to regularly update programmes in line with labour market requirements, to maintain a balance between fundamental and applied disciplines, to foster academic activity among teaching staff, and to expand access to modern technologies and equipment.

This analysis is useful for the higher education system in that it demonstrates the quality of IT programmes as the result of the interplay of several factors: up-to-date content, industry partnerships, qualified academic staff, modern infrastructure, research activity and the ability of universities to respond swiftly to technological changes. This perspective is particularly important in the context of the digital economy, where graduates must be prepared not only for current professions but also for new professional roles that will emerge in the coming years.

The further development of such thematic reviews could be enhanced by including more detailed information on the pace of updates to IT programmes, analysing graduate employment in specific IT roles, assessing student participation in real-world industry projects, comparing the level of digital infrastructure at universities, and examining the impact of international IT certifications on the quality of training. Case studies of universities where collaboration with IT companies has led to the actual updating of course modules, the launch of new laboratories, the introduction of project-based learning or the creation of joint educational products would provide additional value.

Overall, the IQAA's thematic analysis 'Quality of IT Education Programmes: Assessment and Improvement' can be regarded as a timely and practically significant document. Its main value lies in the fact that it examines IT programmes not only through the prism of accreditation requirements, but also in terms of their alignment with technological trends, professional standards, employers' needs and the resource capacity of higher education institutions. Such an analysis contributes to a more informed development of IT education, enhances the competitiveness of graduates and strengthens the link between higher education and Kazakhstan's digital economy.

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