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## MULTI-LEVEL COOPERATION WITHIN THE FRAMEWORK OF THE INTEGRATED QUALIFICATIONS SYSTEM AS AN OPPORTUNITY TO BETTER ADAPT EDUCATION TO THE LABOUR MARKET NEEDS

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**Purpose:** Presentation of the complexity of the stakeholder structure of the Integrated Qualification System (ZSK in Polish), in particular the area related to the category of the market qualifications. This system is an element of public policy, which is a response to the dynamism of change in the market, aimed at acquiring and supplementing human capital qualifications in accordance with the needs of employers. The article also shows possible scenarios for the use of the ZSK in secondary and higher education.

**Design/methodology/approach**: The author uses the method of analysis of the literature on the subject, legal documents of available reports.

**Findings:** The traditional distinction between formal and non-formal education is losing relevance. At the stage of current societal development, only offering high-quality educational services that incorporate formal verification of learning outcomes (validation) and combine standard forms of formal education with the inherently more flexible educational structures inherent in non-formal education can ensure synergies in the implementation of an effective lifelong learning policy.

**Practical implications:** The conclusions can be used by governing bodies of secondary schools and universities.

**Originality/value:** presenting the opportunities for the use of ZSK market qualifications within the secondary and tertiary education system.

**Keywords:** Integrated Qualification System, education, labour market, matching competences to labour market needs.

Category of the paper: Conceptual paper.

### 1. Introduction

On 15 January 2016, with the entry into force of the Act on the Integrated Qualification System (ZSK) (Ustawa o Zintegrowanym Systemie Kwalifikacji, 2015), changes were initiated in the Polish qualification acquisition system, aimed at ordering and standardising the various categories of qualifications awarded in formal and non-formal education. The act also introduced a new category of qualifications called market qualifications. According to the wording of the Act, this term is used to describe qualifications not regulated by law, the awarding of which is based on the principle of free economic activity. These qualifications function in the Polish system of non-formal education, however, so far they have not been regulated in any way, and their substantive scope, quality and manner of verification has been determined by various types of business entities, such as training companies, institutions dealing with certification, employers or industry associations. At the same time, these qualifications are characterised by the greatest dynamics of change in terms of adaptation to the needs of the labour market, changes in the economy, and in order to include them in the Integrated Qualification System, the cooperation of many stakeholders in the sector to which the qualification belongs is needed. In this publication, the authors present the complexity of the stakeholder structure of the Integrated Qualification System, in particular the area related to the category of market qualifications. The article also shows possible scenarios for the use of the ZSK in secondary and higher education in order to better adapt education to the dynamically changing needs of the labour market.

## 2. ZSK as a realisation of lifelong learning

The change in thinking about lifelong learning, which places the learner at the centre instead of the social masses and focuses on supporting the learner in fulfilling his/her own needs for development and self-fulfilment, coincided with the end of the second industrial revolution and continues to operate in the era of Industry 4.0. With the beginning of the 1990s, lifelong learning, which had previously been one of the pedagogical concepts, became the main paradigm shaping thinking about learning, education and the organisational solutions that support it (Jędrzejczak, Osowska, 2022; Kuzior et al., 2023).

With the work on the implementation of the Act on the ZSK, the special role of market qualifications in the context of lifelong learning (LLL) was somehow recognised, giving them legal status and a place in the system next to qualifications awarded in the education and higher education system (full and partial) and regulated qualifications (established by separate

regulations, the awarding of which takes place according to the principles set out in these regulations).

Although the structure of the ZSK concept developed in Poland and the division of qualifications is unique, as it takes into account the history and the entire heritage of the national education system, the basic assumptions, namely the recognition of different ways of achieving qualifications (through education, training, independent learning) and the development of reliable rules for the recognition of qualifications, have their roots in European work on the implementation of the LLL concept.

In 2008, the European Parliament and the Council of the European Union adopted the Recommendation on the establishment of the European Qualifications Framework for lifelong learning (PEIR, 2008), which was completed in 2009 Recommendation on Respecting the European Credit System for Vocational Education and Training (PEIR, 2009). The development of both documents accelerated work in the member states on the introduction of qualification recognition systems, which resulted in the development of the Polish Qualifications Framework and the implementation of the Act on the ZSK (Migałka, Panas, 2018).

# **3.** Multidimensionality of cooperation at the stage of inclusion of qualifications in ZSK

Each institution that undertakes the submission of a market qualification to the system has to reckon with the fact that in the ZSK it will have to deal with multi-level cooperation with entities with which economic operators usually do not have many opportunities for cooperation (e.g., representatives of ministers, entities that often compete during environmental consultations, supervisory entities such as external quality assurance (QA) entities). This makes it necessary to develop new standards for this cooperation.

The first stage where collaboration is necessary is the process of describing qualifications itself, which is usually preceded by an analysis of market demand for the competences in question. The key here is to cooperate with the industry within which the qualification is defined, as well as to follow economic and social megatrends that can help to anticipate the demand for new qualifications. In the context of the fourth industrial revolution, which is entering more and more areas of the economy with increasing dynamics and includes far-reaching automation of processes not only - as was the case earlier in history - in industry, but above all in services, including advanced ones, competences that are based on the use of incremental technologies, artificial intelligence algorithms, machine learning, process automation, blockchain (Fałek, 2022; Kwilinski, 2019; Kuzior et al., 2022; 2023; Bilan et al., 2022; Babenko et al., 2021; Tkachenko et al., 2019) are becoming particularly important today.

This is increasingly evident in the market qualifications reported and described in cooperation with technology companies, among which appear qualifications such as *Programming and operating a 3D printing process, Designing business process automation or Designing and building a machine learning model architecture* (ZSK - Rejestr Kwalifikacji).

The next stage, where more formalised cooperation begins, is the application assessment process itself for the inclusion of qualifications, which is the responsibility of the minister of the sector of the economy to which the qualification belongs (e.g., for educational qualifications it will be the Minister of Education and Science, for healthcare qualifications - the Minister of Health, for technology qualifications - the Minister of Digitalisation). As part of this phase, consultations are held with stakeholders (representing the broad economic area for the qualification in question), who can comment both on the need to include the qualification in the system, as well as substantive or methodological comments on the content of the proposal. The key factors determining the success of cooperation in this phase of qualification assessment are above all: understanding of ZSK assumptions, proficient navigation in ZSK terminology and lack of conflict of interest in relation to the entity that is the author of the qualification. Despite the passage of seven years since the implementation of the MCC in Poland, there are still difficulties in carrying out this phase taking into account the above factors, mainly due to low awareness of the importance of the MCC and occasional participation in consultations.

During the next two phases, the qualification through the minister is evaluated by specialists and industry experts, who perform a detailed substantive analysis of the application, make comments and check whether the level of the Polish Qualification Framework was assigned correctly. At this stage, work on modifications to qualifications sometimes takes place in faceto-face meetings and workshops, but most often it is carried out remotely and is limited to comments made by experts and responses to them by qualification authors. This form of collaboration requires more attention to the real intentions of the reviewers due to the limitations of written communication.

## 4. Cooperation with the institutional environment of the ZSK

Once a qualification is formally included in the system (by way of an announcement in the Polish Monitor), it begins its functioning in a broad environment of entities that have an impact on the implementation of education and employment policy. *The institutional environment (implicit in ZSK) consists of at least: education and higher education systems, labour market (...), public administration* (Stęchły, 2021).

From the point of view of the successful implementation of market qualifications, each of these stakeholder groups has a different function. Education and higher education systems provide the audience for market qualifications that complement the skills of pupils and students.

Labour market institutions and entities provide a reference point for the demand of specific market qualifications, as well as a kind of verifier of the quality of qualifications themselves and the usefulness of formal systems of qualification confirmation. Public administration - central and local, on the other hand, should be a catalyst for programmes of implementation of systemic solutions of qualifications distribution, creation of financial solutions for the acquisition of qualifications and dissemination activities addressed to all groups of stakeholders in the system.

The institutional environment of the ZSK proposed by Stęchły would be worth extending to non-formal education entities, non-governmental organisations operating in the field of education, sectoral associations, as well as sectoral competence councils, which in the basic objectives of their activities have, among other things, the acquisition of knowledge from entrepreneurs on qualification and occupational needs occurring on the labour market in a given sector of the economy, the dissemination of information on qualification and occupational needs and the formulation of recommendations on the adaptation of the human resources of the economy to the current needs of entrepreneurs in a given sector of the economy (Ustawa z dnia 9 listopada 2000).

# 5. Market qualifications as additional competence profiles of secondary school students and graduates

The findings of contemporary researchers show that orientations towards learning are already formed in childhood and have a strong influence on an individual's further educational fate (Kurantowicz, Nizińska, 2012). Attitudes towards increasing knowledge in adulthood also depend on the conditions in which an individual grew up, including school-related conditions (Cincinnato et al., 2016). In this context, it is important to cooperate in the dissemination of knowledge about existing national systems of confirmation of qualifications and ways of their implementation with schools, especially secondary schools, as it is at their stage that the first contact with labour market requirements and decisions on career orientation usually begins.

Cooperation of schools with entities in the field of non-formal education (e.g. training institutions, entities providing additional classes for students) is frequent in Poland, mainly due to the availability of European funds, some of which are directly intended to raise the competencies of children and young people studying through additional extracurricular activities. *However, the link between this cooperation and the qualifications awarded by these institutions remains loose - these activities are a pragmatic development or supplement to the educational offer of educational institutions or universities (Stęchły, 2021). A certain degree of freedom in the selection of additional qualifications offered to students makes it difficult to pursue systemic solutions that could realistically increase the market value of school graduates entering the labour market.* 

The remedy is to use the Integrated Qualifications System (ZSK), which makes it possible to offer market partial qualifications in schools directly linked to the student's basic education programme. This is particularly useful in trade or technical schools, where the basic profession that a student acquires during his/her education can be encapsulated with additional qualifications that make it possible to respond to current labour market needs and increase the possibility of recognising achievements from different qualification subsystems (formal, non-formal). An example of such a juxtaposition of qualifications can be the supplementation of the professional profile of a student learning the occupation of a chef (occupation no. 512001) (Rozporządzenie Ministra Edukacji Narodowej z dnia 15 lutego 2019) with the market qualifications "Preparing food in accordance with market trends and principles of healthy nutrition", "Mixed beverage and alcohol service" and "Programming and operation of the 3D printing proces" (in the context of the growing popularity of the use of 3D printing in catering) (ZSK - Rejestr Kwalifikacji).

Another good practice already implemented in secondary school is the modification of the curriculum using the market qualification and extending it to all students studying the profession. Such an approach was applied at Technical School No. 4 in the Complex of Economic and Service Schools in Zabrze, where, as part of a pedagogical innovation, the learning outcomes of the market qualification 'Customer Relationship Management with the use of the CRM system', included in the Integrated Qualification System on the basis of the Announcement of the Minister of Development, Labour and Technology of 2021-04-15 (Monitor Polski, poz. 421), were included in the curriculum. The programme modification is extended to third-grade students in the profession of economic technician. The content is implemented in a two-year system in the third and fourth grades in a vocational subject resulting from the core curriculum "Computer systems for personnel and accounting" (Opracowanie koncepcji...). At the end of the training cycle, students will take both vocational examinations offered by the school and validation of a market qualification conducted by an external institution authorised to certify.

The usefulness of linking the formal education system with market qualifications in shaping greater attractiveness of graduates of Polish schools has been noticed by the government administration and taken into account in educational policy. The formal inclusion in the Act "Educational Law" (Ustawa z dnia 14 grudnia 2016) of the possibility for trade and technical schools to use market qualifications as part of the hours allocated for the implementation of the curriculum broadens the possibilities of obtaining synergies from the combination of different qualification subsystems: formal and non-formal.

Creating an education policy that takes into account the examples presented above for the use of market qualifications in the education system can make a significant contribution to bridging the competence gaps of people entering the labour market and providing employers with job candidates who are better prepared to fulfil professional tasks.

## 6. ZSK market qualifications as short forms of education in the educational offer of higher education institutions in Poland

The period of system transformation in Poland was a time of prosperity for the higher education market. For the first 25 years, all indicators were growing: the number of students, the number of HEIs, the scale-up rate at the tertiary level. However, at the same time, another "indicator" was also growing, which can be called the inflation of the importance of a university diploma. At a time of a steady inflow of new baby boomers (the first decade of the transition period) and dynamic economic development in the second and third decades (the pension from membership of the European Union), this negative trend was not a matter of public concern.

However, the entry into the period of demographic decline and the appearance of symptoms of structural changes on the labour market (resulting from technological progress and consequent social trends) opens up the field for a serious discussion on the quality of the educational offer of universities, which unfortunately, due to the legal and financial system, are mainly focused on science and parameterisation.

With the changes in the labour market related to the use of ever new technologies and organisational methods, there is an increasing demand for the competence adjustment of employees, i.e. people who formally completed their education in the past and entered the labour market.

The hitherto linear career model: education-work-experience, is being transformed towards non-linearity, where the education element (the need for further training) is becoming not only a condition for improving the labour market situation (better earnings) but increasingly a condition for functioning in the labour market (providing work).

An increasingly common organisational formula for the labour market is the TaaS (Talent as a Service) model, i.e. the 'uberisation' of the workforce combined with a 'talent cloud'. Organisations are increasingly using external resources, a kind of virtual network of experts with the necessary advanced skills, and these talents (thanks to, among other things, the updating of their competences and skills) choose for themselves the projects in which they want to be involved (Sobotka, 2019). It is worth pointing out that this phenomenon has been signalled in the literature many times to a large extent as the temporariness of jobs and individual identification and responsibility for one's career, including further training (Drucker, 2000; Florida, 2010; Kosmala, 2009).

This means increased demand for high-quality educational services, i.e. the range of services traditionally offered by universities, primarily as postgraduate studies.

According to the Central Statistical Office (CSO), in the academic year 2021/22, there were 1218.2 thousand students of traditional studies in universities in Poland, and the number of participants in postgraduate studies was 166.2 thousand (GUS, 2022).

By contrast, in the 2020/21 academic year, the figures were as follows: 1218.0 thousand traditional students and 149.6 thousand postgraduate students (GUS, 2021).

It can therefore be seen that, while the overall number of students has hardly changed at all, the number of postgraduate students has increased by as much as 10%. This clearly indicates an increase in interest in this form of acquiring knowledge. Of course, this period was notable for the changes in the labour market resulting first from the Covid-19 pandemic and later from the war in Ukraine.

The question arises as to whether this apparent change in quantitative terms (increased interest in postgraduate study provision) due to changes in the labour market is linked to a qualitative change? Not necessarily. The literature on the subject points, for example, to the fact of a mismatch between the educational offer and the actual demand of the labour market (Sobotka, 2017), or the argument of "selling" idealised postgraduate studies (which are not a response to labour market demand) by universities in response to the perception of potential consumers operating in a culture of digital narcissism, offering the illusion of achieving fame and success (Słaboń).

Therefore, it seems worthwhile to consider extending the educational offer of universities to other, commonly available tools. While, within the framework of functioning legal regulations, postgraduate studies have the character of a partial qualification, there is nothing preventing this form of educational service from being combined with the possibility of acquiring market qualifications. All the more so, as the university can also become a certifying institution for market qualifications being the learning outcomes of postgraduate studies.

#### 7. Summary

As the implementation of the Integrated Qualifications System (ZSK) proceeds, one might be tempted to conclude that the traditional distinction between formal education and learning is losing relevance. Learning is defined as an activity that is 'unscheduled', 'incidental' and 'part of everyday life' (Muszyński, 2014). Education, on the other hand, is understood as a learning process that is outcome-oriented and leads to the achievement of intended outcomes (Muszyński, 2014). Past research work has shown that education is not possible without learning, but learning can occur outside formal and institutional contexts (Anielska, 2017). It seems, however, that at the stage of current societal development, only by offering highquality educational services that incorporate formal verification of learning outcomes (validation) and combine standard forms of formal education with the inherently more flexible educational structures inherent in non-formal education can synergies be achieved in implementing effective lifelong learning policies. At the same time, the successful implementation of market qualifications as an exemplification of non-formal forms of competence acquisition requires mutual trust, continuous improvement, demonstration of initiative, willingness to bear risks and investments, as well as the willingness of all stakeholders in the ZSK system to cooperate. In order for the effects of implementation to be sustained and to have a real impact on social change in terms of the use of ZSK in adult learning, further cooperation between the organisations involved in the work on the system and even greater effort and effective mechanisms for disseminating knowledge, above all among employers and citizens, about the benefits of using ZSK in building personal and professional development are needed.

## References

- 1. Anielska, A. (2017). Edukacja dorosłych w ofercie szkół wyższych. Strategie uczelni w świetle teorii zależności od zasobów. *Edukacja*, 142(3).
- Babenko, V., Panchyshyn, A., Zomchak, L., Nehrey, M., Artym-Drohomyretska, Z., Lahotskyi, T. (2021). Classical Machine Learning Methods in Economics Research. Macro and Micro Level Example. WSEAS Transactions on Business and Economics, 18, 209-217; https://doi.org/10.37394/23207.2021.18.22
- Bilan, S., Šuleř, P., Skrynnyk, O., Krajňáková, E., Vasilyeva, T. (2022). Systematic Bibliometric Review of Artificial Intelligence Technology in Organizational Management, Development, Change and Culture. *Business: Theory and Practice*, 23(1), 1-13.
- Cincinnato, S., De Wever, B., Van Keer, H., Valcke, M. (2016). The Influence of Social Background on Participation in Adult Education: Applying the Cultural Capital Framework. *Adult Education Quarterly*.
- 5. Drucker, P. (2000). Zarządzanie w XXI wieku. Warszawa: Muza.
- 6. Fałek, P. (2022). Cyfrowa Reindustrializacja. Kwartalnik ZSK, 2.
- 7. Florida, R. (2010). Narodziny klasy kreatywnej. Warszawa: Narodowe Centrum Kultury.
- 8. GUS (2021). Szkolnictwo wyższe i jego finanse w 2020 r. Warszawa.
- 9. GUS (2022). Szkolnictwo wyższe i jego finanse w 2021 r. Warszawa.
- 10. Jędrzejczak, H.A., Osowska, M. (2022). *Małe miasta wobec wyzwań idei uczenia się przez całe życie*. Warszawa.
- 11. Kosmala, J. (2009). *Edukacja w społeczeństwie informacyjnym*. Częstochowa: Akademia im. Jana Długosza w Częstochowie.
- Kuzior, A., Krawczyk, D., Onopriienko, K., Petrushenko, Y., Onopriienko, I., Onopriienko, V. (2023). Lifelong Learning as a Factor in the Country's Competitiveness and Innovative Potential within the Framework of Sustainable Development. *Sustainability*, 15(13), 9968. https://doi.org/10.3390/su15139968

- Kuzior, A., Postrzednik-Lotko, K.A., Smołka-Franke, B., Sobotka, B. (2023). Managing Competences of Generation Y and Z in the Opinion of the Management Staff in the Modern Business Services Sector. *Sustainability*, 15(7), 5741. https://doi.org/10.3390/su15075741
- Kuzior, A., Sira, M. (2022). A Bibliometric Analysis of Blockchain Technology Research Using VOSviewer. *Sustainability*, 14(13), 8206. https://doi.org/10.3390/su14138206
- 15. Kwilinski, A. (2019). Implementation of blockchain technology in accounting sphere. *Academy of Accounting and Financial Studies Journal*, 23(2).
- 16. Migałka, E., Panas, R. (2018). Kreowanie nowych kwalifikacji rynkowych w powiązaniu z informacjami o zawodach. *Edukacja ustawiczna dorosłych*, *3*.
- 17. Monitor Polski z dnia 2021-05-05 r., poz. 421.
- 18. Muszyński, M. (2014). Edukacja i uczenie się wokół pojęć. Rocznik Andragogiczny, 21.
- Opracowanie koncepcji modyfikacji programu kształcenia pod kątem potrzeb sektora Nowoczesnych Usług Biznesowych w Technikum nr 4 w Zespole Szkół Ekonomiczno-Usługowych w Zabrzu, https://sektorowaradanub.pl/wp-content/uploads/koncepcja\_ modyfikacji\_programu\_ksztalcenia\_zseuz.pdf.
- 20. Rozporządzenie Ministra Edukacji Narodowej z dnia 15 lutego 2019 r. w sprawie ogólnych celów i zadań kształcenia w zawodach szkolnictwa branżowego oraz klasyfikacji zawodów szkolnictwa branżowego, Dziennik Ustaw rok 2019, poz. 316.
- Słaboń, E., Plaszczymąka, P. (2022). Określenia o znamionach narcyzmu w ofertach studiów podyplomowych na przykładzie wybranej uczelni publicznej w Polsce. In: Ed. A. Lipka, M. Karczewska (eds.), *Nagie przedsiębiorstwa. O narcyzmie* organizacyjnym. Uniwersytet Ekonomiczny w Katowicach.
- 22. Sobotka, B. (2017). Studia podyplomowe na uczelniach technicznych dostosowanie oferty edukacyjnej do potrzeb rynku pracy. *Zeszyty Naukowe KUL, 60*(2), 238.
- 23. Sobotka, B. (2019). CSR and the competences of employees from generations Y and Z. *Scientific Papers of The Silesian University of Technology, Organisation and Management Series*, 134.
- 24. Stęchły, W. (2021). Edukacja formalna wobec edukacji pozaformalnej i uczenia się nieformalnego. Analiza komplementarności instytucjonalnej w kontekście Zintegrowanego Systemu Kwalifikacji. Warszawa.
- 25. Tkachenko, V., Kuzior, A., Kwilinski, A. (2019). Introduction of artificial intelligence tools into the training methods of entrepreneurship activities. *Journal of Entrepreneurship Education*, 22(6).
- 26. Ustawa o Zintegrowanym Systemie Kwalifikacji z dnia 22 grudnia 2015, Dz.U. 2016, poz. 64. Warszawa, 14 stycznia 2016.
- 27. Ustawa z dnia 14 grudnia 2016 r. Prawo oświatowe.

- 28. Ustawa z dnia 9 listopada 2000 r. o utworzeniu Polskiej Agencji Rozwoju Przedsiębiorczości.
- 29. Uwarunkowania uczenia się w dorosłości. Raport z badania "Uczenie się dorosłych Polaków" (2012). In: E. Kurantowicz, A. Nizińska, *Trajektorie uczenia się w instytucjach kształcenia ustawicznego*. Wrocław: Wydawnictwo Naukowe Dolnośląskiej Szkoły Wyższej.