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# Changes in Entrepreneurship Education in Secondary School under Curriculum Reform in Poland

## **ABSTRACT**

**Objective:** The article aimed at identifying the position of the entrepreneurship course in the Polish education system and analysing the changes in its curriculum in the condition of the education system reform since 2017. Besides, attempts have been made to determine changes in this regard in the light of the analysis of the “old” and “new” core curriculum of general education in secondary schools of various types.

**Methodology:** Research was conducted by analysing the teaching content and existing data (desk research), which are the provisions of the national core curriculum (NCC) for general

education in various types of schools currently in force and implemented in the ongoing reform of the education system. This analysis has been carried out against the previous research results presented in the literature on the subject using previously used methods of teaching content analysis.

**Findings:** The conducted research has shown that more attention should be paid to developing business competencies as part of the reform of the education system. In the NCC, cross-subject correlations have been taken into account, so that the same content is not unnecessarily duplicated. Entrepreneurship education should become more practical and oriented towards preparation for running own business and using financial services.

**Value Added:** The findings show that the new entrepreneurship education program assumptions in Poland will influence the development of entrepreneurship to a greater extent than before.

**Recommendation:** The results indicate that in the process of implementing the NCC a key role is played by the teacher, therefore it is necessary to prepare them well for its realization. However, the effects of implementing the program reform may only be observed and investigated in the future, therefore further research after several years is needed.

**Key words:** business competencies, business education, core curriculum, entrepreneurship education, economic education, education system reform, Polish education system, secondary education

**JEL codes:** A21, I21, I25, I28

## Introduction

Entrepreneurship, as one of the key competencies, is of great importance in the life of every human being. Regardless of age, entrepreneurship is an essential and even indispensable competency that allows understanding the world around and making decisions consciously not only in business and professional life but also in everyday life (Rachwał et al., 2008; Rachwał, 2004; Wach, 2007).

As it is commonly known, entrepreneurship as a competency is widely defined in the subject literature. Most often it is understood as the attitude of an active person, able to successfully participate in the socio-economic

life (Brzozowski, 2007; Rachwał, 2005), but also as readiness and ability to establish and run own business. It is widely accepted that it is the prime factor of socio-economic development of spatial systems of various scales (Andrzejczyk, 2016; Ziolo, 2006, 2015, 2016; Ziolo & Rachwał, 2012; Wach, 2015).

Therefore, entrepreneurship education has found its permanent place in the education systems at all stages in many countries around the world. The development and promotion of entrepreneurship education have also been one of the critical priorities of the institutions of the European Union and its member states for years. In the context of a high level of unemployment among the youth, recurring economic crises as well as rapid changes related to the technological and economic revolution and the development of a knowledge-based society, transversal skills related to being entrepreneurial are crucial not only for shaping the attitudes of young people, but also for the development of entrepreneurial culture in Europe. However, the situation in this area is still diversified. Some European countries committed themselves to disseminate entrepreneurship in their education systems more than a decade ago, while others are undertaking this commitment only now (*Entrepreneurship Education...*, 2016; *Taking the future...* 2017).

In the literature on the subject, a discussion has been going on for many years, in which researchers try to answer the question of how entrepreneurship education can affect entrepreneurial intentions and the development of entrepreneurship, understood as the ability to establish and successfully run companies. In general, the view prevails about the need to shape entrepreneurial attitudes and their positive impact on economic development (e.g. Bae et al, 2014; Daszkiewicz, 2014; Hudek & Sirec, 2019; Kurek & Rachwał, 2010; Nowaczyk & Sobczak, 2016; Rachwał, 2010; Rachwał et al. 2016; Wach, 2013, 2014, 2015; Ziolo, 2012). Confirmation of this special significance of entrepreneurship in the education system could be observed in the last decade during the economic crisis when production and employment were reduced, unemployment increased, and many people in the world had to face the economic difficulties. People who were able to show an entrepreneurial

attitude, developed during school education and due to innate predisposition, were able to find themselves in this challenging time. In the conditions of high unemployment, and difficulties in finding a job, they often decided to take up self-employment and develop their own businesses (Kurek & Rachwał, 2010; Rachwał, 2010). A similar situation took place in Poland after 1989 at the beginning of the economic transformation. The applied shock therapy in a short time led to the collapse of many large state-owned enterprises and a sharp increase in unemployment. It is thanks to the entrepreneurship of citizens, setting up small, often one-person companies, that these adverse outcomes of the transformation have been mitigated.

Regarding the above premises, the article aims to analyse the place of entrepreneurship course in the Polish education system and changes in the curriculum as a result of the reform of the education system of 2017. We aim to identify changes in this regard in the light of the analysis of "old" and "new" core curriculum of general education in schools of various types. The current core curriculum was developed in 2008, based on the previous studies and implemented by the Ministry of Education in 2012 (hereinafter referred to as NCC 2012, i.e. the national core curriculum 2012), while the new core curriculum (NCC 2018) was announced in 2018 and will apply from the school year 2019/2020 for graduates of the "new" 8-year primary school. The old curriculum will cease to apply with the end of the school year 2019/2020 when the last year of graduates of the liquidated middle school finishes the first grade of high school. This is because the basics of entrepreneurship are currently taught in the first grade.

## Materials & Methods

These considerations are based on the results of the content analysis and desk research data, which are the provisions of the national core curriculum for general education (NCC) in various types of schools currently in force and implemented in the ongoing reform of the education system. This analysis

is based on the previous research results presented in the literature on the subject using previously applied methods of content analysis (Berger et al., 2012; Pilz, Berger & Canning, ed., 2012; Rachwał, Kurek, & Boguś 2016). Such an approach, based on the use of the same analysis criteria, allows comparing both core curricula. Due to the comparative possibilities, in the detailed analysis of the provisions of the core curriculum, the subject *Basics of entrepreneurship*, implemented in secondary schools, which is the primary subject from the point of view of entrepreneurship education in the Polish school, was limited. In order to explain the regularity in changes in the distribution of content in this area, attention was also paid to the content of education in other subjects, carried out at primary and secondary school. The analysis ends with conclusions and recommendations for the practice and further research.

## Entrepreneurship education in Poland as a research theme in literature

The theme of entrepreneurship education in Poland in the specialist literature is taken up in several significant trends. The authors focus mainly on the essence and need for entrepreneurship education; definition and interpretation of the most critical concepts; entrepreneurship in academic education; and entrepreneurship in secondary education. Due to the adopted theme and purpose of this article, particular attention is focused on the last of the trends as mentioned above, which in the context of the ongoing reform of the education system in Poland is a particularly topical and exciting issue. Entrepreneurship education in Poland takes place primarily on three levels, i.e. during obligatory lessons in the *Basics of entrepreneurship* in secondary schools, implementation of various types of national and international projects whose aim is to develop broadly understood entrepreneurship, but also during lessons or apprenticeships carried out by students in various types of schools.

The lesson themes of the *Basics of entrepreneurship* at school is taken primarily in the context of the scope of knowledge and skills, which should be included in this school subject, in particular with regard to the construction of the core curriculum, but also the necessity of introducing the extension of the subject and the high school leaving exam (*Matura*). The core curriculum of *Basics of entrepreneurship* as well as proposals for its changes is the subject of discussions of both theoreticians and practitioners. Subsequent reforms introduced changes to the core curriculum and dealt with the approach to the content of the core, which systematically includes a more and more detailed understanding of knowledge and skills covering the subject, and the content itself, the scope of which also changed, which is discussed later in the article (Wach, 2013; Wach, 2014).

Although the core curriculum of *Basics of entrepreneurship* has been changing since 2002, but from the introduction of this subject to schools it is taught only in the basic scope, unlike most other school subjects, which assume the possibility of implementation in the extended scope (Rachwał, Kudełko, Tracz, Wach, & Kilar, 2008). The consequence is that this subject, although extremely important in the whole cycle of education, is unfortunately sometimes marginalised. Also, it could then be taken as one of the criteria for recruitment for studies of an economic nature. It would also be possible if the students could take the exam in *Basics of entrepreneurship*, which specialists have postulated from the moment this subject was introduced at school (Bartoń, 2005; Tracz & Rachwał, 2007; Rachwał, 2017).

Shaping entrepreneurial attitudes and developing economic interests among school youth, along with lessons on *Basics of entrepreneurship*, is also supported by various activities, such as participation of both subject teachers and students themselves in educational projects. They include national-scale projects, e.g. *Step into entrepreneurship*, *Economics at school* or *My finances*, and international scale projects, e.g. *Retail Sector Competencies for All Teachers* (ReCall), *Retail Sector Competencies: Development of personal and social competencies in vocational education for the retail trade*

sector (RESECO), *Sustainable Entrepreneurship - A Game-Based Exploration for Lower Secondary Schools* (SUSEN), or *Reaching the Lost Generation* (RLG) (Krogulec-Sobowiec, 2007; Kilar, Kurek, Osuch, Świętek, & Rachwał, 2016; Kilar, Kurek, Rachwał, Semczuk & Świętek, 2016; Kilar, Kurek, Osuch, Świętek, & Rachwał, 2017). Participation of students and teachers in various types of projects is support for teachers in the area of supplementing and refreshing the substantive preparation, which due to the specificity of the subject must be continuously made. Besides, it gives students and teachers of *Basics of entrepreneurship* the opportunity to acquire knowledge, skills, as well as modern and interesting teaching aids that diversify lessons and support the learning process (Raczko, 2007; Kocurek, 2017; Krzyżak, 2007).

In addition to formal ways to develop entrepreneurial attitudes, many researchers are convinced, quite rightly according to the authors, that "the best method of teaching entrepreneurship is to teach it through practice, best in the cooperation with the business community" (Majchrowicz, 2007, p.190). Through school practices in vocational schools and technical schools, and above all following the new core curriculum also as part of the *Basics of entrepreneurship* lessons, students observe and participate in the functioning of the enterprise and have the opportunity to meet and talk to entrepreneurs (*Rozporządzenie...*, 2018).

In conclusion, the authors who deal with the issue of entrepreneurship education in Poland point to the vital place of this school subject in the education system (e.g. Rachwał, 2017; Rachwał et al., 2016; Sadowska, 2016; Tracz & Rachwał 2007; Wach, 2007). They also draw attention to the need to support students and teachers in the education of *Basics of entrepreneurship* in various fields, so that this education is as effective as possible (Rachwał, 2017). The position of the subject in school education, due to its practical aspect, should grow and be strengthened, as it is the only school subject that gives students the opportunity to understand and participate in the country's economic life. "In the discussions between entrepreneurial practitioners and theoreticians, a common conviction is emerging that en-

trepreneurial attitudes among youth should be strengthened and shaped with even greater determination, while the requested measures and methods for achieving this goal are different" (Majewski, 2007, p. 131).

## The position of entrepreneurship in the Polish education system

Entrepreneurship is an essential element in the Polish education system. Its primary purpose is to prepare students to live in the modern world regarding understanding the socio-economic processes that take place in it and shape the necessary skills and attitudes necessary in professional activity, including running own business. This education is mainly carried out as part of the subject *Basics of entrepreneurship* in high school. Certain elements related to shaping entrepreneurial attitudes are also implemented in other lessons from the beginning of primary school and in high school. It is worth emphasising that the *Basics of entrepreneurship* is the only school subject related to the economic education of young people in Poland. That is why its wide content range has been adopted. It provides the basics of knowledge and skills in economics and finances, as well as prepares for professional activity.

As a separate obligatory subject, entrepreneurship was introduced to upper secondary schools in the 2002/2003 school year, under the name *Basics of entrepreneurship* (in Polish *podstawy przedsiębiorczości*), as part of the reform the implementation of which began in 1999. Initially, as an element of general education, the subject was implemented in 2 lessons a week and, depending on the decision of the school, could be taught in grade 1 twice a week or in grades 1 and 2 once a week.

During the next reform of 2008, the assumption was maintained that the *Basics of entrepreneurship*, as a compulsory school subject, were implemented in a total cycle of a minimum of at least 60 lessons (i.e. 2 lessons a week in grade 1). At the same time, at the third stage of education, in the middle school, part of the content of entrepreneurship was also



included in the core curriculum of *Social Studies*. At the same time, an optional subject of *Economics in practice* was introduced, which according to the assumptions was closely related to the *Basics of entrepreneurship* (Borowiec-Gabryś, Kilar, & Rachwał, 2018).

The assumptions of the current curriculum reform have maintained the number of lessons for the implementation of *Basics of entrepreneurship*, while this subject will be implemented in the second and third year of high school and technical school (1 lesson a week) and the 1 grade of the first level vocational school (2 lessons a week). Whereas the current optional subject of *Economics in practice*, no longer exists in the offer of elective courses. At an earlier stage of education, i.e. primary school, entrepreneurship is limited to *Social Studies* and individual subjects on a small scale.

In the new core curriculum of *Basics of entrepreneurship* for post-elementary schools (in accordance with the implementation schedule of the reform it will apply from the school year 2019/2020) it was assumed that one of the main didactic goals of the subject is to prepare students for social and economic activity, as well as for family life in the economic sense, teaching basic skills to competitive behaviour on the market, including bearing the consequences of own decisions. Hence, the broad content range of the subject has been maintained, going beyond the narrowly understood entrepreneurship as preparation for running a business.

## Contents and goals of teaching *Basics of entrepreneurship* in the new core curriculum

In the new core curriculum (NCC 2018) the current form of the curriculum has been maintained, which consists of:

- introduction in which the objectives of the subject matter are justified;
- education goals – general requirements, i.e. the primary goals that should be achieved during education,
- teaching content – detailed requirements that give the precise descrip-

tion of what content should be implemented and what learning outcomes should be achieved,

- implementation conditions at the school.

As in the previous core curriculum (NCC 2012), the style of specific requirements' provisions in the 'language of learning outcomes' has been maintained, as it is commonly used in EU countries. On the one hand, it is a limitation concerning the general formulation of the requirement, but on the other hand, the documents accurately express what the teacher has to achieve with the students.

In the light of the adopted concept, the subject *Basics of entrepreneurship* is thus a synthesis of selected elements of knowledge in economics, management and finances, enriched with elements of socio-economic geography, political science, sociology, psychology and law. During the lesson of *Basics of entrepreneurship*, students learn about basic economic categories, mechanisms and processes as well as their institutional, behavioural, cultural and market conditions. Entrepreneurial attitudes and skills that support them should therefore indirectly result from this knowledge. In the educational process, students learn how - by implementing individual economic goals - to be entrepreneurial and socially responsible in own efforts and activities (*Rozporządzenie.../Regulation...*, 2018).

When adopting the above educational objectives, one of the main didactic goals of the subject is to prepare students for planning their future and for professional activity as wage-earners or self-employed persons. The scope of the subject is consistent with the commonly accepted definition of entrepreneurship as a key competency in the EU countries (*Key competency...* 2002; *Recommendation...* 2006). It justifies the necessity of adopting its broad concept, which, thanks to equipping the students in economic and financial knowledge, develops their skills of flexible behaviour on the labour and management market, and develops leadership qualities. It is also imperative to shape students' respect for the values that are the foundation of the market economy and socially responsible business, as well as ethical

attitudes and readiness to comply with them in professional and social life. *Basics of entrepreneurship* lessons support students in self-development and the willingness to invest in themselves and lifelong learning, in a situation of dynamically changing environmental conditions and the development of a knowledge-based economy. Such a broad approach to the subject is an educational challenge for both students and teachers. The acquisition of knowledge and shaping skills and attitudes concerning the functioning of the market economy, the financial market, the labour market and the enterprise have been considered necessary in the education process. Hence, the division of education content into these four sections. In the new core curriculum, it has been assumed that at least eight lessons should be allocated to the first section, 13 lessons to the second one, 12 lessons to the third one, and 19 lessons to the fourth one, that is 52 lessons in total, which is approx. 80% of the lessons at the teacher's disposal. The teacher can devote the remaining lessons to extending specific content at their own decision. Such a distribution of lessons and the corresponding requirements between sections results from the assumption that in entrepreneurship education the skills related to undertaking professional activity as part of a full-time job or self-employment are fundamental, and the basis of this activity is economic knowledge, including the issues of financial market functioning (*Rozporządzenie.../Regulation...*, 2018).

A special place in this subject is occupied by the fourth section, i.e. enterprise, which is designed primarily to meet the requirements related to the deepening knowledge about the functioning of the enterprise in the environment along with the preparation for running own business and therefore the most of time should be allocated these issues. In the face of resignation from the optional subject of *Economics in practice*, which, according to observations, was still rarely implemented in schools, the elements of practical business education have been transferred to this section. Thus, it favours the most to achieve goals related to arousing the entrepreneurial intentions of the young generation and preparing them for business operations.

The objectives of entrepreneurship education in the new and old core curriculum are written in a different way (Table 1). In the NCC 2018, they were divided into three categories:

- knowledge,
- skills and application of knowledge in practice,
- shaping attitudes.

In each of these categories 10 to 13 separate general requirements are identified. In the old NCC 2012 four thematic groups of learning objectives are highlighted, and each of them briefly describes what general requirements are expected:

- communication and decision making,
- economy and enterprise,
- planning and professional career,
- ethical principles.

Table 1. General comparison of NCC 2012 and NCC 2018

NCC type	NCC 2018 (new)	NCC 2012 (old)
Number of categories of "educational goals - general requirements" (total number of general requirements or/and recording method)	3 (listed, 34)	4 (descriptive)
Titles of the chapters of "teaching content - detailed requirements" (number of requirement entries in each chapter)	Market economy (11) Financial market (17) Labour market (13) Enterprise (23)	Entrepreneurial person (11) Market - features and functions (7) Market institutions (10) State, economy (12) Enterprise (10) Labour market (9)

Source: own study based on NCC2012 and NCC2018.

## The diversity of the type of learning outcomes in entrepreneurship education – a comparison between the old and the new core curriculum

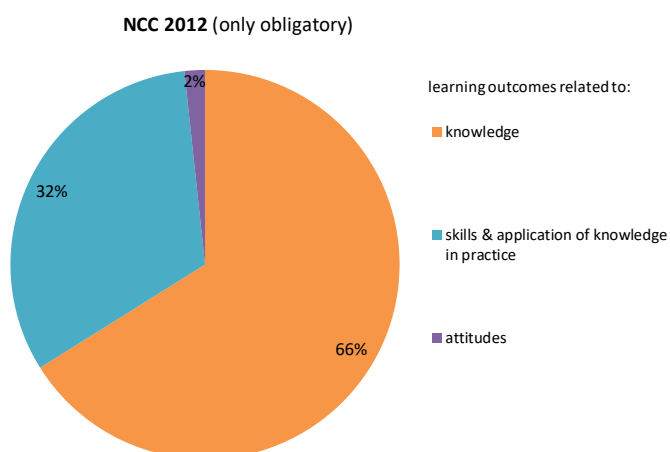
Based on the conclusions from a comprehensive discussion among specialists, mainly at the international and national conferences on entrepreneurship organised in Kraków by the Pedagogical University (annual cycle) and University of Economics with the Ignatianum Academy (two-year cycle), as well as in the journal *Entrepreneurship – Education*, the NCC 2018 puts more emphasis on the outcomes of education in terms of skills. It is already evident in the general objectives, which are divided into objectives concerning knowledge, skills, practical application of knowledge and student attitudes. In the NCC 2012 they were expressed in a slightly different way, i.e. according to the content, not the category of goals. The new core curriculum in this respect refers to the principles used in the provisions of the European Qualifications Framework, also known from widespread implementation in higher education. Among the 34 general goals, the most, i.e. 13, is about skills and applying knowledge in practice, and 10 – knowledge. It is worth emphasising that the 11 general objectives refer to the shaping of attitudes, not yet occurring in this respect in the core curriculum, although it is clearly articulated in the European definition of entrepreneurship as a key competency (*Key competency...*, 2002).

The analysis of the description of specific objectives - learning outcomes of the old and the new core curriculum – indicates that there has just been a shift towards skills development (Fig. 1 A-C). In NCC 2012, only 32% of learning outcomes are related to skills (obligatory subject only) (Fig. 1A), while the remaining outcomes concerned knowledge and, to a negligible extent, attitudes. These proportions are slightly better in the case of *Economics in practice* as an optional subject (Fig. 1B). However, one must bear in mind that only a small part of students in Poland implemented it because it was not widely elected.

In the new core curriculum (Fig. 1C), this distribution looks completely different. Nearly 2/3 of the outcomes refers to the skills and application of knowledge in practice, and 31% to the outcomes associated with equipping students with knowledge. Much more outcomes, 9%, refer to shaping students' attitudes.

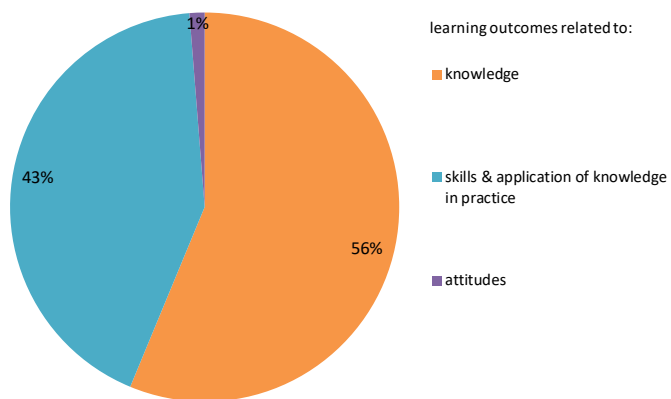
Figure 1. Distribution of learning outcomes according to the old and new core curriculum by types of learning outcomes

A.



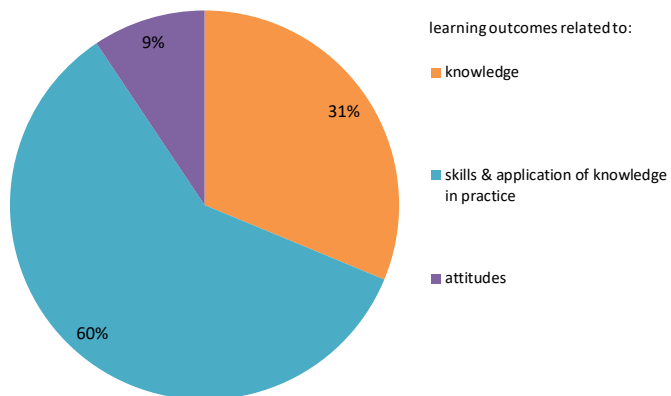
B.

**NCC 2012 (obligatory & optional)**



C.

**NCC 2018**



Source: own compilation.

## Diversification of learning outcomes in entrepreneurship education according to developed competencies – general approach

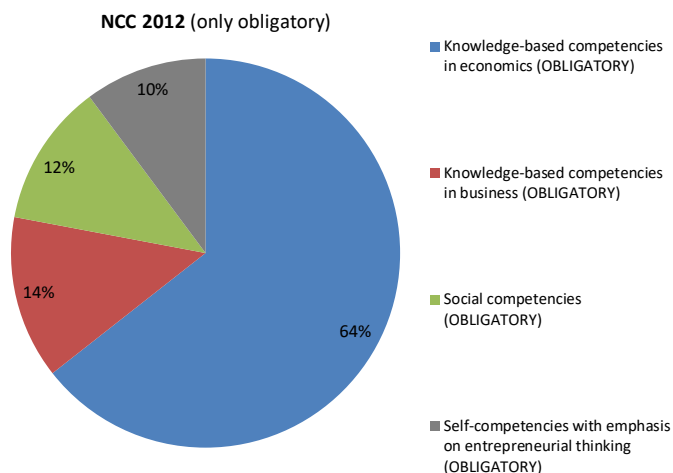
The detailed content analysis of the learning outcomes was carried out according to the methodology used in previous comparative analyses of core curricula and didactic plans in various European countries (Pilz, Berger & Canning, eds., 2012). There are 11 criteria regarding competencies related to economic knowledge, 10 concerning business competencies, five regarding social-competencies and five self-competencies with emphasis on entrepreneurial thinking (Annex 1).

In general terms, i.e. the division into these four groups of competencies, a shift towards learning outcomes related to business can be seen (Fig. 2A-C). In the old compulsory core curriculum (NCC 2012) nearly 2/3 of the outcomes were related to knowledge-based competencies in economics, and only 14% with business competencies (Fig. 2A). Slightly more educational goals in the field of business were implemented as part of the optional subject *Economy in practice*, hence taking it into account a little more, i.e. a total of 29% of learning outcomes refer to business competencies.

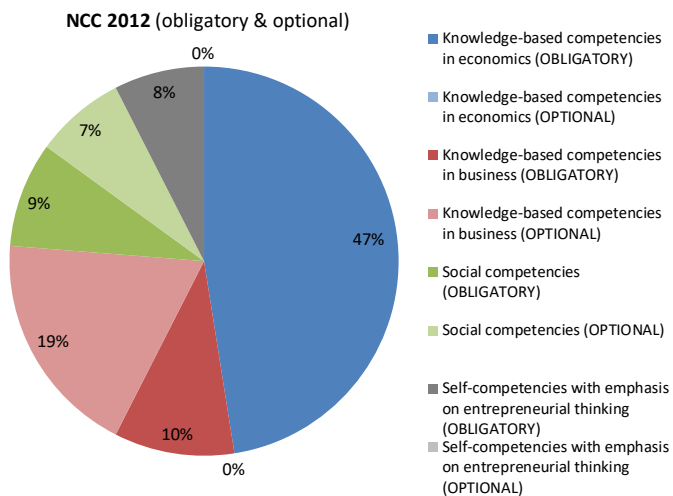


Figure 2. Distribution of learning outcomes in the old and new core curriculum by the scope of competencies (general approach)

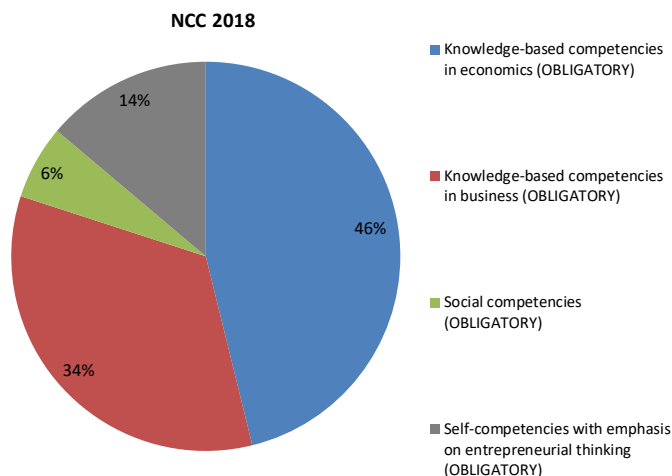
A.



B.



C.



Source: own compilation (for NCC 2012 based on Rachwał, Kurek, & Boguś, 2016).

In the NCC 2018, these proportions look slightly different – 46% of the outcomes refer to economic knowledge, and 34% to business competencies (Fig. 2C). The share of the outcomes structure in the field of self-competencies with emphasis on entrepreneurial thinking also increased. The reduction in the share of outcomes related to social competencies results from the fact that much content in the field of interpersonal communication is implemented within the subject of *Social Studies*, both in high school and grade 8 (the last one) of primary school.

## Diversification of learning outcomes in entrepreneurship education according to developed competencies – detailed approach

A detailed analysis of the distribution of competencies according to the analysed criteria (sub-competencies) indicates that the distribution of learning outcomes between individual criteria in the NCC 2018 is more proportionate

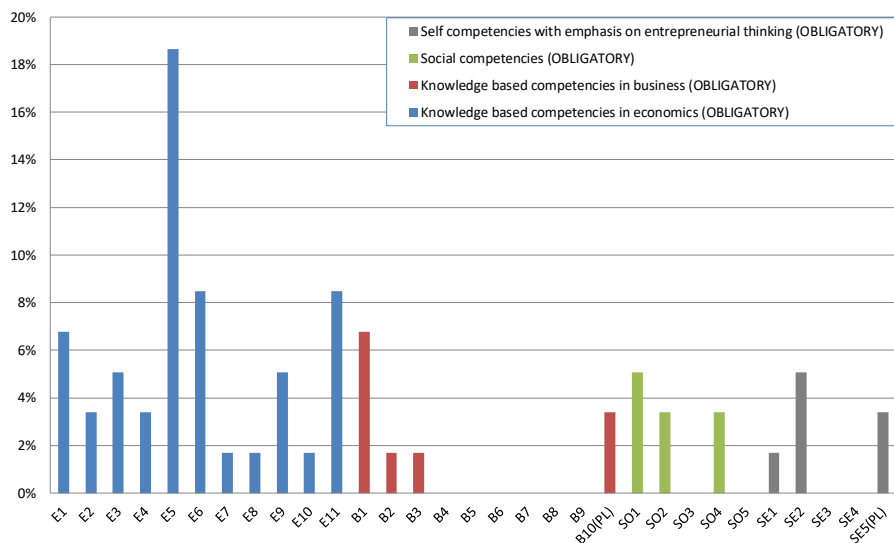
concerning economic knowledge and business competencies (Fig. 3A-C). In the NCC 2012, taking into account that only the compulsory scope was implemented, significant deficits exist regarding business competency criteria (Fig. 3A). It applies in particular to such valuable content as leadership and human resources management (B4, B8), marketing and sales management (B6) or controlling (B5). This is partly due to the assumption that business competency objectives can be implemented on the optional subject of *Economics in practice* (Fig. 3B). Unfortunately, this subject did not include all students and was of marginal importance from the point of view of economic education, although it was interestingly designed. In the NCC 2018, these deficits were supplemented, i.e. some of the outcomes that occurred in the optional subject in the amended form has been included into the compulsory subject of *Basics of entrepreneurship* (Fig. 3C).

In the NCC 2018, some content has not been taken into account, being aware that it is going to be implemented in other subjects. For example, the outcomes of education on trade and globalisation (E3), earnings and income inequality (E9) and indicators of the economy (E10) are implemented in Poland as part of *Geography* lessons relating to socio-economic geography. Outcomes in conflict resolution, empathy and the ability to give and receive criticism (SO2, SO3, SO5) are implemented, among others, within *Social Studies*, partly at the primary school stage. Due to cross-curricular correlations, there is no need to implement these outcomes in *Basics of entrepreneurship* lessons, which is essential in the situation of a limited number of lessons for teaching this subject.

Figure 3. Distribution of learning outcomes in the old and new core curriculum concerning competencies (detailed)

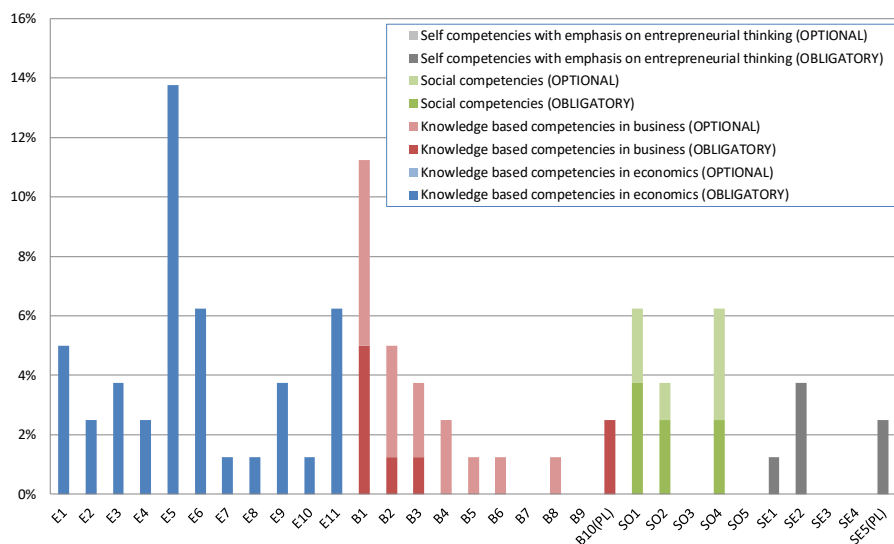
A.

**NCC 2012 (only obligatory)**

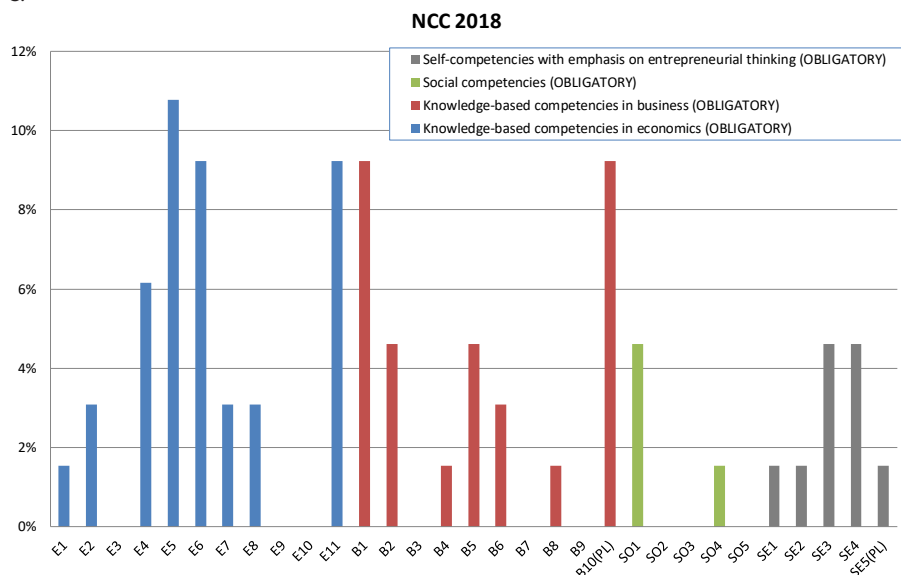


B.

**NCC 2012 (obligatory & optional)**



C.



coding – see Annex 1

Source: own compilation (for NCC 2012 based on Rachwał, Kurek, & Boguś, 2016).

## Final remarks

The analysis of the new core curriculum as compared to the one currently in force suggests that, as part of the reform of the education system, more attention should be paid to shaping business competencies. This does not mean that the economic and financial knowledge is marginalised, but it is to be the basis for shaping the ability to act on the competitive market. Following the postulates of the teaching community and experts, a greater emphasis has been placed on shaping the students’ skills and attitudes. As far as knowledge is concerned, students should be equipped only with what is necessary to understand economic processes and develop these skills. The new core curriculum also includes cross-subject correlations to

a greater extent. As a result, the same content is not repeated unnecessarily (e.g. on globalisation or European integration in various subjects), which saves time on other important educational content. In this way, entrepreneurship education should become more practical and oriented towards preparation for running own business and using financial services. Of course, in practice, the implementation depends on the teachers, because the documentation of the core curriculum cannot change the entire school reality. In the educational process, the most important is the student and their will to develop and self-educate, as well as a teacher who can get students interested in entrepreneurial content and apply appropriate teaching methods. A critical educational challenge is also the need to include some of the content of education from the current subject of *Economy in practice* in the face of its removal from the current curriculum. The new core curriculum indicates that what is valuable in the current entrepreneurship education can be preserved because the changes are evolutionary rather than revolutionary. It should also be emphasised that shifting the time when this subject will be implemented, especially in high school and technical secondary school, is highly beneficial because it will allow the student to better understand and engage in the content being learned. Therefore, one can hope that the new core curriculum of *Basics of entrepreneurship* in Poland will influence the development of entrepreneurship to a greater extent than before. However, these outcomes may only be observed and investigated in the future, when several years will have passed since the implementation of the new core curriculum.

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## Annex 1. Coding for the curriculum analysis

A. Sub-competencies/criteria in the field of knowledge-based competencies in economics	Code
<p><b>Basic principles of economics</b>  <i>Further explanations:</i> Understanding economics as the study of how society manages its scarce resources; understanding of basic economic phenomena</p>	E1
<p><b>The market forces of supply and demand</b>  <i>Further explanations:</i> Elasticity and its application (how much buyers and sellers respond to changes in market conditions); aggregate demand and aggregate supply (the aggregate-demand curve and the aggregate-supply curve)</p>	E2
<p><b>Trade and globalisation</b>  <i>Further explanations:</i> International trade (the effects of international trade on economic well-being); open-economy macroeconomics and macroeconomic theory of the open economy</p>	E3
<p><b>Actors in the market</b>  <i>Further explanations:</i> Consumers, producers and the efficiency of markets; understanding how different actors in the market behave; understanding of the theory of consumer choice</p>	E4
<p><b>The monetary system</b>  <i>Further explanations:</i> Saving, investment and the financial system; money growth and inflation; understanding of the role of money in economy</p>	E5
<p><b>Government policies and its influences</b>  <i>Further explanations:</i> The design and costs of the tax system; externality (for instance, economy and ecology); public goods and common resources; monetary and fiscal policy</p>	E6
<p><b>Market forms</b>  <i>Further explanations:</i> Firms in competitive market; monopoly; oligopoly</p>	E7
<p><b>Firms on the market</b>  <i>Further explanations:</i> Costs of production; the behaviour of competitive firms; factors of production (for instance, labour, land, and capital)</p>	E8
<p><b>Income</b>  <i>Further explanations:</i> Earnings and discrimination; income inequality and poverty</p>	E9

<p><b>Indicators of economy</b>  <i>Further explanations:</i> GDP, CPI...</p>	E10
<p><b>Labour market</b>  <i>Further explanations:</i> Unemployment; short-run trade-off between inflation and unemployment</p>	E11
<p>Sub-competencies/criteria in the field of knowledge-based competencies in business</p>	<b>Code</b>
<p><b>Business and its external environment</b>  <i>Further explanations:</i> Various types of business activity and organisation; financial institutions and their role in the financial structure; business external environment, e.g. economic systems, structure of industry, location of industry</p>	B1
<p><b>Corporate strategy and planning</b>  <i>Further explanations:</i> Methods used in forecasting and planning enterprise goals and department objectives; the nature of decisions and methods of statistical analysis in making decisions</p>	B2
<p><b>Organising</b>  <i>Further explanations:</i> Organisation structure, levels of organisation; importance of authority, responsibility, and delegation</p>	B3
<p><b>Directing</b>  <i>Further explanations:</i> Leadership, relationship and communication between managers and employees</p>	B4
<p><b>Controlling</b>  <i>Further explanations:</i> Principles of effective control, budgetary and non-budgetary, financial accounting conventions</p>	B5
<p><b>Marketing and sales management</b>  <i>Further explanations:</i> Selling, transportation, storage, gathering market information, etc.</p>	B6
<p><b>Production and operation management</b>  <i>Further explanations:</i> Production function; the place of product design and development; the location of plant; the layout of equipment; the importance of planning and control</p>	B7
<p><b>Human resource management</b>  <i>Further explanations:</i> Recruitment selection; training and development; promotion and transfer; redundancy and retirement,</p>	B8
<p><b>Administrative management</b>  <i>Further explanations:</i> Planning and organising the office; office machinery and equipment; human aspects of computer usage</p>	B9

<b>Business ethics</b> <i>Further explanation:</i> ethical behaviour of a contractor, employer and employee, black economy, mechanism of corruption	B10 (PL)
<b>Sub-competencies/criteria in the field of social competencies</b>	<b>Code</b>
<b>Communication ability</b> <i>Further explanations:</i> A person has the ability to communicate, when he/she is able to express him/herself verbally and nonverbally and interpret other people's messages properly and know how to react based on them	SO1
<b>Conflict resolution skills</b> <i>Further explanations:</i> Conflict resolution skills are concerned with recognizing a clash of interests and the willingness to resolve them amicably	SO2
<b>Ability to give and receive criticism</b> <i>Further explanations:</i> Ability to give and receive criticism. Someone who is ready and able to deal with other people's mistakes constructively and fairly	SO3
<b>Team ability</b> <i>Further explanations:</i> Readiness and competence to cooperate with other members of a group in a goal and task-oriented way	SO4
<b>Empathy</b> <i>Further explanations:</i> Understand the situation of other people and to deal with them politely, and with respect	SO5
<b>Sub-competencies/criteria in the field of self-competencies with the emphasis on entrepreneurial thinking</b>	<b>Code</b>
<b>Internal locus of control</b> <i>Further explanations:</i> It refers to the extent to which individuals believe that they can largely control their actions and the consequences of their actions. Individuals with a high internal locus of control believe that events result primarily from their own behaviour and actions. (Decision-making ability; assertiveness; self-marketing; organising competence; visionary thinking)	SE1
<b>Achievement motivation</b> <i>Further explanations:</i> People who are strongly achievement-motivated set goals for themselves and look for affirmation of their accomplishments (plan, organise, readiness for intellectual achievement; orientation towards achievement; motivation for achievements; goal-orientation; lifelong learning; resistance against stress, ability to work under pressure)	SE2



<p><b>Eagerness for independence</b>  <i>Further explanations:</i> It is understood as the quest for autonomy and self-fulfilment. People with outstanding eagerness for independence orientate their actions and decisions on their own plans and evaluation, seldom or not at all on authority (personal independence; leadership; creativity; imagination)</p>	<p>SE3</p>
<p><b>Moderate tendency to take risks</b>  <i>Further explanations:</i> People with this characteristic are ready to take risks, without being careless. (Readiness for moderate risks; entrepreneurial thinking as employee; grasp for trends and market developments)</p>	<p>SE4</p>
<p><b>Entrepreneurial attitude</b>  <i>Further explanation:</i> Features of entrepreneurial person, taking entrepreneurial action</p>	<p>SE5 (PL)</p>

Sources: own compilation based on Berger et al. 2012 and Pilz, Berger, & Canning, ed., 2012.