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From policy to school: embedding career orientation as a cross-curricular area in Bosnia and Herzegovina

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This article explores the integration of Career Orientation as a cross-curricular area within the Core Curriculum in Bosnia and Herzegovina, drawing on a neo-Deweyan theoretical framework which approaches curriculum as a multilayered structure composed of epistemological, pedagogical, anthropological and ecological dimensions. The paper analyzes how key concepts of career orientation are framed in the curriculum and what learning outcomes and pedagogical guidelines are proposed. The results show gap between declarative aspirations presented in the curriculum documents and the necessary prerequisites in practice for implementation of Career Orientation as a cross-curricular area. Analysis shows that the curriculum reflects a declarative shift toward a new learning paradigm in career guidance—one that is dedicated to developing career management skills—rather than the traditional model focused on testing, matching and decision-making. Career Orientation is described as an active, reflective and student-centered process, aligned with broader goals of lifelong learning and personal agency. Additionally, referring to the collaborative and interdisciplinary nature of cross-curricularity, the paper argues that the implementation of Career Orientation depends not only on epistemological and pedagogical dimensions, but also on the ecological, e.g., schools' capacity to adopt collaborative, participatory and learner-centered teaching practices. Stemming from this part of the research several challenges to implementation of Career Orientation as cross-curricular area were identified, including insufficient teacher support, limited opportunities for teacher collaboration and a lack of adequate educational resources. To ensure further development and sustainability of Career Orientation as a cross-curricular area, the results indicate the need for enhancing the conditions concerning the overall curriculum implementation focusing primarily on developing the professional culture that fosters collaboration, shared responsibility and focuses on students as active learners, as these are at the heart of cross-curricular approaches.

KEYWORDS

career education, cross-curricular approach, Core Curriculum, neo-Deweyan theory, career management skills (CMS), Bosnia and Herzegovina

Introduction

The results of the *Programme for International Student Assessment (PISA)* from 2018 indicate that as fewer than 10% of students in Bosnia and Herzegovina attend schools that provide career guidance, which is substantially lower than the OECD average of 60%–65% (Schleicher, 2019, p. 44). Earlier analyses (Biavaschi et al., 2013, p. 23) showed that youth in transition countries widely experience the sense of insecurity in the competencies they acquire

in formal schooling. Additionally, it has been noted that societies with weaker social systems provide less support to the youth during the transitional points, making their choices more uncertain and their capacities less acknowledged (Reifman and Niehuis, 2023). In Bosnia and Herzegovina this may be related to the weak links between education institutions and labor market, in addition to the shortages in the implementation of outcomes and competencies-based learning (Pašalić Kreso, 2021; ETF, 2020; Bartlett et al., 2016). The consequences are visible in high share of NEET individuals (Not in Education, Employment or Training) in the country, which is currently estimated to 17.2% (World Bank, 2024). While the value is at historically lowest, it is still higher than the EU average of 11.2% (Eurostat, 2024). These figures raise questions about the policy arrangements, institutional frameworks and pedagogical design that shape the current provision of career education in Bosnia and Herzegovina.

Recent scholarship emphasizes the importance of local socio-political and cultural contexts in shaping career guidance policy and its measures (Hooley and Godden, 2021; Sultana, 2024). However, research on career education in Bosnia and Herzegovina is still very scarce. There are attempts at examining application of specific vocational psychological theories in career guidance (Husremović et al., 2024), but the research attention was not so far directed to the question of how career guidance is embedded in the school curriculum, how it is conceptualized by policy or how it aligns with broader pedagogical objectives.

As part of the lifelong career guidance system (Kettunen et al., 2025), schools have a strong role in providing for career learning and support, and in some countries (e.g., Iceland, Norway, Denmark, *inter alia*), it is acknowledged that students have the right to receive career counselling from a competent specialist during compulsory schooling (Einarsdóttir et al., 2023). Evidence from previous research confirms that school-based career education positively influences later life outcomes, including increased life satisfaction, more optimistic future outlooks, and a greater sense of preparedness for life transitions (Moote et al., 2024). However, cross-national studies reveal substantial variation in how career education is implemented, underscoring the importance of developing context-sensitive approaches that align with both systemic structures and the diverse needs of learners (Moote and Archer, 2017; Hooley, 2022; Sundelin and Lundahl, 2022; Gewirtz et al., 2024).

Career education is here defined as a systematic endeavor encompassing a wide range of formal and informal activities and experiences, both school-based and community-based, designed to support individuals navigate their careers (Hoyt, 2005). Career education seeks to make academic learning more relevant by infusing career-related themes into the compulsory curriculum and across all grade levels. The goal of career education is to offer a process of learning that integrates personal development and career awareness.

Career education is part of the wider concept of career guidance, which refers to a range of career support activities and services, besides career education (Patton and McMahon, 2021). While career guidance often includes counseling with the aim of supporting persons in making decisions, career education is a learning process, which can include processes of identity formation as well as gaining information and awareness of the environment and future prospects. In Bosnia and Herzegovina, the term *professional orientation* is commonly used, reflecting a somewhat outdated notion that a career specialist's role is to help individuals find an occupation that best matches their personal characteristics, which is rooted in the

traditional person-environment fit paradigm. However, despite today's more modern views on career development, *professional orientation*—now more commonly referred to as *career orientation* in policy documents and curricula—remains an essential component of career interventions (Husremović et al., 2024). Only recently, career education has become a part of the school curriculum in Bosnia and Herzegovina, but still in the field of practice not much concrete steps have been made in terms of training teachers or preparing the learning resources for integrating Career Orientation into everyday teaching. Nonetheless, it is relevant to see how is the new paradigm of career orientation established in the Core Curriculum and whether it aligns with the trends existing in the international context or is still referring to the old models of matching and decision-making. This intention informs the first research question, which will be elaborated in more detail later.

Competencies acquired or developed in career education are widely regarded as career management skills (CMS), aiming to “develop resources and competencies in people to better manage their life course” (Sultana, 2012, p. 229). CMS bring a paradigm shift in career guidance by abandoning “test and tell” or matching paradigm in favor of a learning and development paradigm (Jarvis, 2003). Developing a shared CMS framework internationally has remained a challenge over the past decades given peculiarities in socio-economic, epistemology and curricular traditions across countries (Neary et al., 2015). However, most common components of CMS across various contexts include: career learning areas (skills, attributes, attitudes and knowledge), the learning model and the levels describing the development process (Neary et al., 2015, p. 15), which are operationalized according to an individual system's needs. Despite the growing emphasis on CMS (Kettunen et al., 2020), it is still not completely clear how this concept is translated (or not) into concrete learning outcomes and pedagogical practices within formal education. Existing research highlights gaps between the intended goals of career guidance and its actual implementation in practice (Magee et al., 2025).

The most common approaches to implementing school-based career education include (Collins and Barnes, 2017; Kettunen, 2024): (1) offering it as a standalone subject, (2) integrating career-related content within existing subjects and (3) embedding it across the entire curriculum through a comprehensive “whole school” approach.

Some education systems have a distinct subject dedicated to acquiring career-relevant knowledge, skills, attitudes and personal attributes (e.g., Personal, social, health and economic education in England). The second approach intends to support students' career development through subject learning by demonstrating real-world application of school content and its use in everyday life (Collins and Barnes, 2017), e.g., financial planning is addressed in mathematics, self-presentation skills are covered in language classes. The third mode approaches career education as a transversal theme across all subjects and acquisition of career management skills as a learning objective is the shared responsibility of all school staff members (Kettunen, 2024). This can also include informal and voluntary activities strongly connected to the curriculum, like after-school clubs (Collins and Barnes, 2017). Due to its value for students' wholistic development, the third approach is considered to have the highest pedagogical value (Kettunen, 2024). Each of the approaches implies a set of organizational and pedagogical challenges leading to the question of how the curriculum for career learning is designed; what are its

purposes and aims, values, contents and outcomes (Simpson et al., 2011).

Cross-curricular teaching and learning is considered interdisciplinary (Dewey, 2021) and specific challenges related to this feature lay in finding balance between the perceptions of various actors about the subjects' links. Additionally, teachers' collaboration and school support are considered as a necessary prerequisite for such an approach (Rowley and Cooper, 2009). Cross-curricularity is widely utilized in education reforms and introducing curriculum innovations (Reid and Scott, 2005) enabling integration of competencies that are needed in a number of life and professional areas, and whose content is not limited to a specific subject (Peschar, 2000). It is regarded as the most meaningful (McCowan et al., 2023) for developing students' functional competencies. Yet, there are obvious challenges observed in implementing cross-curricular teaching (Reid and Scott, 2005). The first one is related to differing degrees of support among subject teachers for this approach due to the fact that they are not necessarily specialized in the given cross-curricular area resulting in possible lack of competencies for achieving the full educational outcomes. Subject teachers' role and their ability to integrate the curriculum into their everyday teaching practice (Felby, 2022) is crucial for the implementation of this approach.

The cross-curricular approach gives the central role to students' experiences and expected outcomes can be only achieved through constructive alignment, when "all components in the system become aligned to the objective" (Biggs, 1996, p. 360). Constructive alignment is described as a method to enhance students' learning experiences and promote self-regulated learning, bridging the gap between intended and actual learning outcomes (Stamov Roßnagel et al., 2020). In this approach, teachers begin with specific concepts and align them with intended outcomes, which are then delivered through carefully adjusted activities.

Numerous initiatives have produced reference tools and publications to support the development of career guidance systems, policies and practices at both national and EU levels, such as The European Lifelong Guidance Policy Network. Although the Network ceased to exist in 2015, The Glossary (ELGPN, 2015) produced as the output of its activities still serves as a frequent reference point both in policy, practice and scholarly work.

This article seeks to contribute to the growing international literature on career guidance and curriculum studies by offering an in-depth analysis of how Career Orientation is represented in the Core Curriculum of Bosnia and Herzegovina. It does so by employing a theoretical framework grounded in neo-Deweyan curriculum theory (Simpson et al., 2011), which emphasizes four dimensions of curriculum analysis and development; epistemological, pedagogical, anthropological and ecological. Career Orientation has only recently been formally introduced in the Core Curriculum, and its integration into educational practice remains yet not explored. With the aim of addressing this gap and based on the conceptualizations outlined earlier as well as the theoretical framework to be presented in the following section, three main questions have been formulated for this research:

Q1. How the new paradigm of career orientation is embedded within the Core Curriculum? Does the curriculum reflect innovations aligned with the EU recommendations or continues to draw on traditional models focused on person-environment fit and decision-making?

Q2. How the curriculum for Career Orientation is pedagogically structured in terms of learning outcomes and teaching guidelines?

Q3. How teachers and students perceive the overall school's capacity for implementing cross-curricular approach including student-centered learning, collaborative and participatory teaching practices?

In the following, we first outline the institutional context of career education in Bosnia and Herzegovina. Then we describe theoretical framework to analyze the position of Career Orientation based on neo-Deweyan theory of curriculum analysis and development and outline the methodological framework for the present research. The results section explores how Career Orientation is conceptualized and integrated as a cross-curricular area within the Core Curriculum in Bosnia and Herzegovina. Finally, we present a discussion of the key challenges and propose directions for improving the current approach to Career Orientation in schools.

Formal career education in Bosnia and Herzegovina

The comprehensive review of the career guidance system in Bosnia and Herzegovina (Markuš et al., 2022) showed that this area is insufficiently addressed through the legal framework, with the scope of career guidance issues varying from one administrative unit in the country to another. Therefore, the analysis in this paper was based on the Core Curriculum passed at the state level, which is the guiding document for all 12 education authorities responsible for designing specific curricula.¹ The Core Curriculum represents the overall state-wide orientation, at least declaratively. It sets recommendations that are further translated into curricular documents at lower levels of education administration, and this is still an ongoing process, as educational authorities progress at different pace.

Career orientation is traditionally considered a common task within the annual work plan of school counselors (*pedagogues*) who are graduates of Pedagogy, trained for the general competencies needed in the guidance process. In some cases, school counselors have completed dual study program in Pedagogy and Psychology. Still, career orientation activities represent a small part of the overall school counselors' workload encompassing whole range of activities directed to supporting students, teachers, parents and cooperation with the local community (MOOKS, 2023). A typical way of implementing career orientation in schools throughout Bosnia and Herzegovina is through activities organized during specific classes in the final years of elementary (grade 9) or secondary school (grade 3 or 4) through workshops and using various assessment instruments. Additionally, guest lectures and visits to other educational institutions or companies are organized. However, the intensity, type of activities and approaches to career orientation are the choice of school counselors and vary across schools, which is difficult to identify due to non-existing evaluation, monitoring and review of career education practices.

The initial steps to integrate career education in the Core Curriculum have been made with the enactment of a regulation in 2015

1 For the specific decentralised structure of the education system in Bosnia and Herzegovina see in Isanović Hadžomerović et al. (2022).

(Official Gazette of Bosnia and Herzegovina, 2015), leading to the development and finalization of the document in 2018 which integrates Career Orientation as a Cross-Curricular area. This means that learning objectives related to this area are met by connecting different school subjects through thematic integration and activities within the regular teaching process (APOS0, 2018). Subjects involved in this integrated approach include Bosnian/Croatian/Serbian language, Biology and Sports, Social Sciences, Foreign Languages, Arts, Mathematics, and STEM. Some activities are also conducted through workshops by class headteachers or school counselors. Career Orientation in the Core Curriculum is designed to span from preschool through the end of secondary school, with age specific attainment definitions.

Given the country's aspirations for the EU membership and its tendency to align its documents with EU practices, it is expected that there is a congruence between the concepts related to career education in the Core Curriculum and those in the ELGPN Glossary, which represents the reference for the wider EU framework. Given the declared orientation of educational authorities at various levels to reform curricula based on outcomes and competencies (Guthrie et al., 2022), it can also be expected that the Career Orientation area in the Core Curriculum would follow this direction. Furthermore, ongoing curricular reforms at various levels of educational administration aim to forge a more competency-based and outcomes-oriented approach to learning in schools (OSCE, 2020). The results of this analysis provide insights into what is a declared orientation of the curriculum and what are the existing practices enabling the implementation of cross-curricular, outcome-based teaching.

Theoretical framework

Theoretical framework for this research comes from the neo-Deweyan theory of curriculum analysis and development as described by Simpson et al. (2011). The particular theoretical framework offers an expanded understanding of curriculum that moves beyond conventional, subject-based definitions to include broader look rooted in Dewey's educational philosophy. The neo-Deweyan theoretical approach acknowledges four curricular dimensions:

- (1) epistemological—the most obvious facet of a curriculum, dealing with the actual learning content focusing on how we know and how we justify knowledge claims
- (2) pedagogical—refers to the means of teaching (methods, techniques and strategies), which also carry certain lessons
- (3) anthropological—emphasizes the human and cultural dimensions of education, where students and teachers are seen as living curricula. This facet highlights the importance of drawing upon the diverse backgrounds, experiences and identities present in the school community such as students' nationalities, languages, artistic traditions and family professions to enrich learning and understanding
- (4) ecological—includes the physical and technological aspects of schooling, e.g., values, culture, ethos, ambiance and moral foundations (Wagner and Simpson, 2009).

Dominant curricular messages within each of the domain can be systematically identified on the basis of the Heuristic Instrument

for the Analysis of Curriculum Emphases (HIACE). The application of such an instrument would require language adaptation and validation in the context of Bosnia and Herzegovina, which can be an impetus for initiating new research dedicated to this. Instead of translating and adapting the HIACE for this research, we used secondary data from the official analysis conveyed by the Institute for Development of Pre-University Education (Džumhur et al., 2024). The selected data sets are aligned with the descriptions of epistemological, pedagogical and ecological curriculum dimensions, while anthropological is missing and would be difficult to grasp unless ethnographic research is conveyed.

The new-Deweyan theoretical framework is particularly suited to the second and third research questions, which examine how the curriculum for career learning is conceptualized and operationalized, but also how the broader curriculum is perceived to be functioning. Career Orientation, as defined in the Core Curriculum, requires a curricular perspective that captures its interdisciplinary and experiential character. The neo-Deweyan framework allows for an exploration of how Career Orientation is enacted not only through explicit subject matter (epistemological), but also through pedagogical methods, cultural responsiveness and the educational environment itself. It provides a basis to question whether Career Orientation in the Core Curriculum is designed with coherence between its stated aims and actual practices, and whether it reflects a commitment to providing students meaningful career learning experiences.

Methods and procedure

To address the defined research questions, the method of document analysis was used. It can be triangulated with other methods or act independently. Document analysis has been selected for this research due to its relevance within qualitative, interpretive paradigms and its strong alignment with the aims of curriculum analysis (Bowen, 2009; Cardno, 2018; Gross, 2018). Document analysis enables a systematic examination of official documents such as curricula, policy frameworks and guidelines, as well as secondary data collected through surveys. In this research, the aim is to explore the integration of career orientation within the Core Curriculum, but also its epistemological, pedagogical and ecological foundations. This aligns closely with the neo-Deweyan perspective where documents, persons and practices are treated as carriers of meaning that require contextual and conceptual interpretation (Simpson et al., 2011). Documents offer stable, non-reactive data that can be revisited multiple times, allowing for in-depth analysis of curricular intentions, terminology and underlying assumptions. In this context, the Core Curriculum serves as a bounded case, and document analysis provides a direct insight into how career learning is framed by educational authorities and curriculum developers.

The analysis is based on two curricular documents and secondary analysis of data set evaluating the Curriculum implementation by students and teachers in Sarajevo Canton (Džumhur et al., 2024). This particular part of the country was chosen for the ongoing processes of curricular reform initiated in 2020, which has gone the furthest compared to other parts of the country. Secondary data analysis utilizes existing or primary datasets to answer new research questions (Kelly et al., 2024). According to the same authors, it can include any previously collected data for different purposes. In this case, datasets

were obtained by a public institute through their regular evaluation procedures. [Urick \(2018\)](#) describes the use of secondary analysis of large data sets obtained through international and national programs (e.g., Schools and Staffing Survey in the USA) for analyzing processes and characteristics of school contexts to build frameworks of systems through which schools operate.

Documents included in the analysis:

- *Guidelines for Implementation of Core Curriculum for Cross-Curricular and Inter-Curricular Area Defined on Learning Outcomes* (APOS0, 2015)
- *Core Curriculum Defined on Learning Outcomes in Bosnia and Herzegovina* (APOS0, 2018)
- *Analysis of Surveys for Students, Teachers, Principals and Support Teams at the End of School Year 2023/2024* (Džumhur et al., 2024).

The *Guidelines for Implementation of Cross-Curricular Areas* are focused on activities and practical recommendations for teachers, while the *Core Curriculum* contains outcomes and attainment indicators. For comparison purposes regarding expected results, the ELGPN Glossary (2015) was also analyzed as a reference to the EU policies and practices context.

Aligned with the research questions, the units of analysis included:

- key concepts and their alignment with the new learning paradigm
- aims and purposes, values, content and intended outcomes of the Career Orientation curriculum
- results of students' and teachers' ratings of particular curriculum segments yielded in the literature as a requirement for cross-curricular, interdisciplinary teaching; student-centeredness, collaborative and participatory practices?

Quantitative data were extracted from the existing report (Džumhur et al., 2024) and interpreted according to the given research questions. Qualitative data were analyzed using qualitative content analysis in *Atlas.ti 24* software. This method involves a category-driven coding process to identify, analyze, organize, describe and report themes within a dataset. Categories were data-driven and developed through a step-by-step open coding process (Kuckartz, 2019, p. 184). While no predefined analytical framework was applied, some concepts were defined based on prior theoretical knowledge. This sensitizing framework consisted of general concepts, rather than those with specific, precise meanings (Charmaz, 2015, p. 405), which was particularly sought in this research.

Intensive data analysis resulted in analytical categories that extended beyond mere data description to include comparison and concept mapping using *Atlas.ti 24* software. Concept mapping primarily involves visualizing the interconnectedness of concepts found in empirical material. It serves as both a method of data collection and data analysis (Morgan and Guevara, 2008). When applied in data analysis, concept mapping helps synthesize, organize, and identify relationships and meanings between different concepts (Conceição et al., 2017).

To address the two research questions, the qualitative analysis process described by Kuckartz (2019) was adapted as follows;

- 1 Preparing the data—this involved intensive and simultaneous reading of the four selected documents

- 2 Forming main categories to correspond with the research questions. In this case main categories were: *career*, *career education*, *CMS* and *career learning areas*
- 3 Analyzing text passages—open codes were identified for curriculum elements regarding Career Orientation
- 4 Category-based analysis—results were presented through category-based analysis, including concept mapping and tabular presentation.

In the concept mapping stage, it was also necessary to code the identified relationships based on the data from the Core Curriculum and CMS documents.

Results

Key concepts related to career education in the Core Curriculum

In order to address the first research question, the initial step in the content analysis was to distinguish and define key concepts of career education present in the Core Curriculum. The three main concepts explicitly defined are: *career*, *career education*, and *career competences*. The Core Curriculum defines a career as “a lifelong sequence of work experiences. A career is what an individual experiences as their activities and experiences in professional, family and social life” (APOS0, 2018, p. 10). This description underscores the non-linear, integrative and subjective nature of a career as a unique and multifaceted experience. However, it does not address the balancing roles across different spheres, an aspect included in the ELGPN Glossary (2015).

Career orientation, the term used in the Core Curriculum, is semantically equivalent to career education as defined in ELGPN (2015), and the two were used for further comparison (Table 1).

Concept mapping revealed certain patterns, highlighting both similarities and differences between the approaches found in the two documents. The Core Curriculum emphasizes career orientation as a lifelong process consisting of acquiring knowledge and skills that enable making “mature” and “informed” decisions. Although the visual representation of the concept (Figure 1) appears rather linear and straightforward, the overall orientation is lifelong, implying that the process does not conclude with a single decision made at a specific point in an individual's life.

Learning and developing skills are the primary activities in career education, as defined in the ELGPN Glossary, while managing, accessing and utilizing career guidance and information are its main objectives.

In the Core Curriculum, career competences begin with a focus on knowledge and skills, whereas the ELGPN Glossary considers competencies as a broader term. The Core Curriculum places a notable emphasis on the verb “assessment,” highlighting it as the primary capacity required for making the most favorable decisions. The assessment is displayed as related to personal characteristics, educational opportunities and the labor market with the aim of grasping multiperspectivity of information a person needs for career decisions (see Figure 2).

The ELGPN definition of CMS includes a set of capacities that encompass both knowledge and actions aimed at career enhancement. This definition suggests that developing CMS is a

complex and multifaceted process, involving a broader range of activities and skills necessary to effectively manage one's career paths (see Figure 3).

Presented results show that the Core Curriculum does not fully direct itself to the new paradigm of career learning. The curriculum reflects attempts of aligning with the EU recommendations, but still has not fully shifted from the traditional approach. This is reflected in the focus on decision making as the main outcome of career orientation, while the ELPGN Glossary promotes managing pathways and taking action. The APOSO (2018, p. 10) definition views assessment as the core process in career education, emphasizing the ability to make the most favorable decisions, but overlooks the “effective use of career information and guidance” (ELGPN, 2015, p. 13), which extends beyond mere

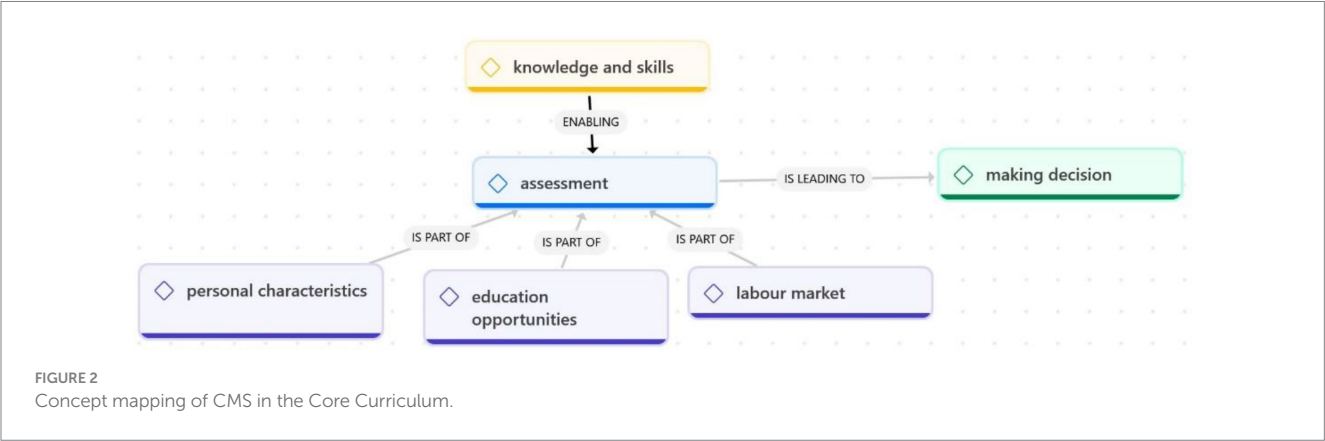
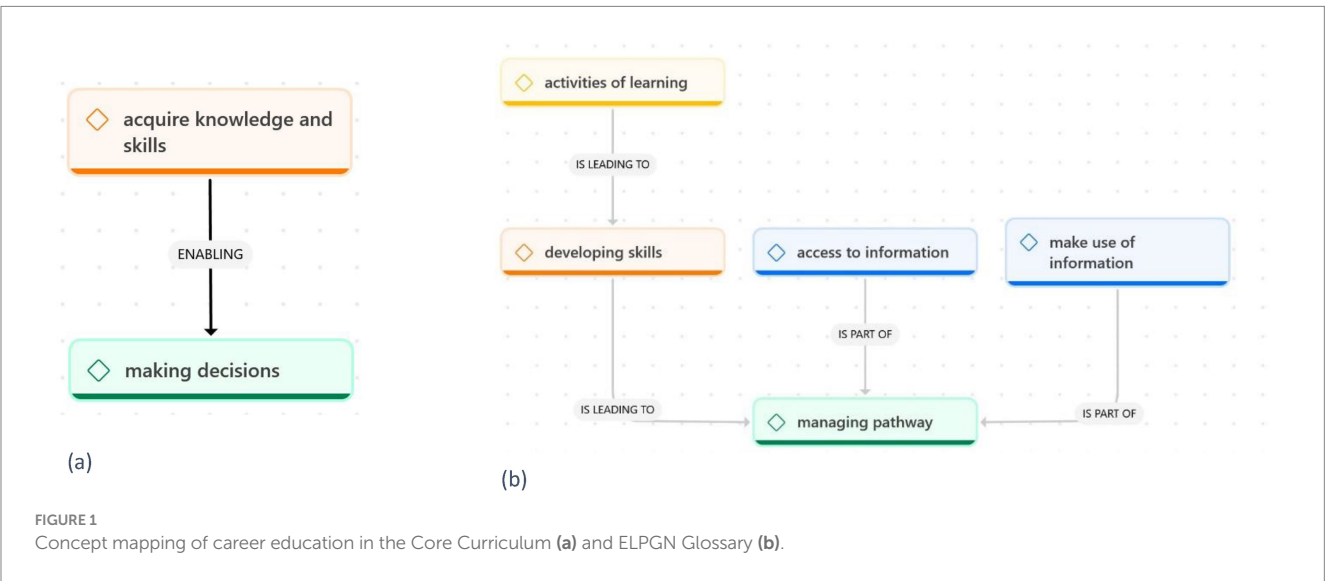
decision-making. Although the Core Curriculum's concepts of career and career education include lifelong dimension and account for personal, social and labor market factors, they lack personal agency and the dynamic use of acquired competencies and information, both of which are essential for today's career management.

Career learning areas and outcomes of career orientation

Career-related competences as such are not defined in the Core Curriculum nor in the Guidelines but they can be extracted from the outcomes, attainment indicators and workshop scenarios.

TABLE 1 Comparison of key concepts.

Definitions	Core Curriculum (2018)	ELGPN Glossary (2015)
Career orientation	“Helping students <i>acquire the knowledge and skills necessary for making mature and informed decisions</i> about career choices and development throughout their lives”	“Programmes and activities of <i>learning</i> to help people to <i>develop the skills necessary to manage</i> their career and life pathway. These include <i>accessing and making effective use of</i> career information and guidance.”
Career competences	“ <i>Knowledge and skills</i> that allow persons to <i>assess</i> their own qualities and interests, <i>assess</i> opportunities and demands in the education and labor market, and <i>make decisions</i> that are most favorable for them at any given moment.”	“ <i>Competencies</i> that help individuals to <i>identify</i> their existing skills, <i>develop</i> career learning goals and <i>take action</i> to enhance their careers”



Four main outcomes for Career Orientation are set in the Core Curriculum for students:

- 1 Assess their own interests and values, strengths and abilities, and formulate life roles in the context of individual experiences
- 2 Critically evaluate the relationship between their own characteristics, the world of education and the world of work
- 3 Analyze the importance of decision-making and the consequences of choice in all aspects of life
- 4 Utilize constructive ways to manage change and strategies.

Specific outcomes' indicators are defined for five age groups: 5/6 years, 8/9, 11/12, 14/15, and 18/19 along knowledge, skills, attitudes and values. The dominant verbs used to describe career orientation indicators are: *assess*, *describe*, *recognize* and *explain*. The declarative conception of career as a lifelong process seems to confront with the educational intentions outlined in the Core Curriculum.

The *Guidelines for implementation of the Core Curriculum* contain a set of workshop scenarios to assist teachers in organizing their instruction. Each workshop outlines expected outcomes and learning objectives. By analyzing these elements, more specific career learning outcomes are identified (Table 2).

As Table 2 shows, the knowledge component dominates, even in interactive learning format such as workshops, while practical skills are less present.

Pedagogical means for achieving career learning outcomes

In order to identify pedagogical means for achieving career learning outcomes two specific units were analyzed and the results are presented in the tables below:

- 1 General areas of Career Orientation that permeate all school subjects with corresponding recommendations for implementation (Table 3)
- 2 Career Orientation at the level of subject curricula (Table 4).

Recommendations reflect the general pedagogical approach that a teacher should nurture regardless of the area they are teaching. They are envisioning the role of a teacher in supporting students know oneself and their characteristics, exploring possibilities and eventually making decisions on the career path.

More subject-specific activities related to Career Orientation are shown in Table 4 including recommendations on how to utilize



FIGURE 3
Concept mapping of CMS in ELGPN Glossary.

TABLE 2 Outcomes defined in workshop scenarios.

Category	Topic	Description from the document
Knowledge	Awareness about the process of skills development	Identify what skills are being developed through particular activities in school or beyond
	Awareness of own skills and strengths	CV and motivation letter writing
	Awareness of own interests	How they are related to career choices
	Knowledge about occupations	Who does what and how is making contribution to certain areas of life
	Assessing work environments	What is a favorable work environment and how it can be created
	Analyzing life course	Based on biographies of notable persons and their careers (video, written text or interview)
	Information literacy	Related to certain occupations, education opportunities and conditions in the world of work
Attitudes	Discrimination and stereotypes	How they affect career choices
	The influence of culture	How similar or different it is to work in our culture compared to others?
Skills	Effective learning	Needed for success in school and in work
	Creating individual career development plans	What is that I need to do in order to achieve my goals?
	Teamwork	How important it is for success in work
	Communication skills	Making lasting connections with others, expressing own thoughts and emotions

teaching methods with the aim of fostering career learning. It includes creative methods such as: visits, interviews, analysis of famous people biographies, discussions, preparation of exhibition related to artistic representation of professions, research projects, video analysis, even designing individual career development plans (in Social sciences).

Perceptions of student-centered teaching

After looking at the elements of Career Orientation as presented in the Core Curriculum, it was necessary to explore the needed prerequisites for schools to adopt interdisciplinary, participatory and outcome-based teaching practices. The data on this were obtained through secondary data analysis of the report prepared by [Džumhur et al. \(2024\)](#). For the purpose of this paper, we have extracted data regarding the perception of student-centered teaching, as well as the

extent to which teaching practices related to achieving learning outcomes are changing during the 2023/2024 school year.

A total sample of 1,177 first-and second-grade high school students in the Sarajevo Canton took part in the survey assessing various elements of the overall curriculum implementation, whose schools are included in the implementation of subject curricula. The sample includes the whole population of students studying according to the reformed curricula. The number of first-grade (49%) and second-grade (51%) students is approximately balanced, with 36% of students who attend grammar schools, while 64% attend vocational secondary schools.

The student rating scale on the student-centered teaching contains 13 statements, with responses distributed across four modalities: *never or almost never, in some classes, in most classes, in every class* (see [Table 5](#)). The reliability of the assessment scale was tested by calculating the Cronbach's alpha coefficient, which amounts to 0.930, indicating high internal consistency of the measurement instrument.

TABLE 3 General areas of career orientation and recommendations for teachers.

Areas of activities	Recommendations for teachers
Knowing oneself and personal characteristics	- ask students what knowledge and skills are needed to master the subject and what they think they will develop during the school year - discuss with students how they will apply this knowledge and skills in the future, further education, or employment
Exploring possibilities	- consider questions that students could answer related to career orientation (e.g., if they are going on a visit, encourage them to think about asking employees about their education and career paths) - use significant events for students, such as the organization of a major sports competition, to explore all the occupations involved in organizing and conducting such an event
Making decisions on the career path	- encourage students to help younger students in your subject - help students understand what skills they will develop by assisting younger students, such as communication skills, teaching skills, etc. - develop with students the skills needed for an interview on a topic from your subject

TABLE 4 Specific activities leading to career management skills.

Subject	Career learning activities
Mother tongue	- Utilize visits for writing reports - Assign students to conduct interviews with family members or neighbors and connect the interview with presentations - Use biographies of famous people as inspiration for students' research on future career options
Biology and Physical and Health Education	- Discuss with students what kind of environment is most conducive to work and how such an environment can be created - Assign them to research health services and programs in the local community, and identify the occupations involved in maintaining people's health, as well as the skills and knowledge required to work in such programs or institutions
Social sciences	- Encourage students to explore how the context in which people live (urban, rural, family environment.) affects the choice of occupations within social groups - Discuss how discrimination and stereotypes can influence career choice and development - Work on developing individual career development plans
Foreign languages	- Encourage students to inquire about occupations in the culture of the language they are learning and compare the work of professionals in our culture and the other culture - Encourage them to learn terms in foreign languages related to career choice and development - Write with them their skills or prepare a resume in the foreign language
Art	- Discuss with students about artistic professions, what artists can do, and the knowledge and skills needed to engage in various fields of art - Prepare an exhibition with students on the topic "Professions and Careers"
Mathematics	- Discuss with students how mathematical elements function in various professions with concrete examples - Teach them how to read data and graphs related to the labor market and employment - Conduct a small research project on a career orientation topic and statistically process the data
Science	- Discuss how technological changes have contributed to the development of professions, jobs, and the creation of new occupations - Watch a video with a scientist or organize a visit from a scientist to learn more about how technological changes influence changes in professions. For example, discuss how horticulture has changed due to ecology through the use or misuse of pesticides

Overall, the average score of 2.35 suggests that students perceive student-centered practices to be present in some to most of the classes, but not consistently. The highest-rated practices (mean scores above 2.5) include primarily teacher-led activities focused on clarity and control, rather than promoting student autonomy. Moderately present practices, with mean scores around 2.3 to 2.5 reflect more student-centered and responsive teaching approaches, although they are less consistently experienced by students. The lowest-rated practices, with mean scores below 2.1, are changing the structure of the lesson ($M = 2.06$) and designing lessons to motivate students ($M = 2.05$).

Teachers' assessments of the overall curriculum implementation and school-level collaboration

The questionnaire was completed by 377 implementing teachers. Nearly one-third of the teachers have between 21 and 30 years of experience in education. This is followed by respondents with 11 to 20 years of experience, making up approximately 29%. The reliability of the assessment scale was tested by calculating the Cronbach's alpha coefficient, which is 0.937, indicating high internal consistency of the measurement instrument. Table 6 presents how teachers evaluated key elements of the curriculum based on their level of agreement with five statements.

The overall mean score of 2.65 suggests that most teachers tend to agree with the statements, though not strongly. This indicates a moderate, rather than enthusiastic, endorsement of the curriculum elements. Teachers tend to view the curriculum as clear and relevant, with moderately well-defined goals and reasonable potential for supporting student-centered learning. However, the relatively low percentage of strong agreement, coupled with over 35% disagreement on most items, suggests there is room for improvement. Specifically,

there is a need to better communicate the value and usability of the supporting elements of the curriculum.

Overall, teacher assessment of collaboration in curriculum implementation is moderate, with an average mean score of 3.17 (see Table 7). This suggests that teachers engage in collaborative activities somewhere between "5–10 times per year" and "1–3 times per month." Among the various collaborative practices, exchanging teaching materials with colleagues emerged as the most frequent, with a mean score of 3.25. Nearly 43% of teachers reported sharing materials on a monthly basis or more often, while the least frequent collaborative activity was developing common evaluation criteria, with a mean score of 3.08. The findings suggest that cooperation related to assessment practices occurs less often, potentially highlighting a need for more structured and coordinated agreements on evaluation across subjects or departments. Participation in teaching discussions and team meetings scored slightly above 3.1, which shows that while these forms of cooperation are practiced, there remains room for cultivating a stronger culture of professional dialogue and joint planning.

Factors hindering curriculum implementation

The final data set enabled insight into the assessment of both technical and systemic challenges faced by teachers in aligning their practice with curriculum expectations indicating factors that hinder the effective implementation of the curriculum (see Table 8).

The most important obstacle reported by teachers is the lack or inadequacy of educational resources, followed by lacking needs-based professional support. Challenges related to the implementation of learning outcomes in everyday teaching were also noted, with a mean score of 2.52. This suggests that many teachers find it difficult to translate curriculum goals into classroom practice. The problem

TABLE 5 Student rating scale on the quality of student-centered teaching.

Statement	Never or almost never	In some classes	In most classes	In every class	Mean (M)
	f (%)	f (%)	f (%)	f (%)	f (%)
The teacher says what needs to be learned	81 (6.9)	398 (33.8)	470 (39.9)	228 (19.4)	2.72
The teacher asks questions to check what has been learned	76 (6.5)	413 (35.1)	461 (39.2)	227 (19.3)	2.71
The teacher explains the methods and techniques of assessment	159 (13.5)	429 (36.4)	401 (34.1)	188 (16.0)	2.53
The teacher sets clear learning goals	103 (8.8)	478 (40.6)	472 (40.1)	124 (10.5)	2.52
The teacher provides individual help when a student has difficulty understanding content or tasks	231 (19.6)	467 (39.7)	313 (26.6)	166 (14.1)	2.35
The teacher gives me the opportunity to assess myself and others	272 (23.1)	451 (38.3)	287 (24.4)	167 (14.2)	2.30
The teacher adapts lessons according to the needs and knowledge of the class	237 (20.1)	502 (42.7)	321 (27.3)	117 (9.9)	2.27
The teacher uses different teaching techniques	250 (21.2)	502 (42.7)	298 (25.3)	127 (10.8)	2.26
The teacher gives suggestions on how to improve my performance	302 (25.7)	425 (36.1)	309 (26.3)	141 (12.0)	2.25
The teacher gives information on areas where I can improve	286 (24.3)	443 (37.6)	313 (26.6)	135 (11.5)	2.25
The teacher gives feedback	254 (21.6)	552 (44.4)	289 (24.6)	112 (9.5)	2.22
The teacher changes the structure of the lesson	378 (32.1)	439 (37.3)	277 (23.5)	83 (7.1)	2.06
The teacher designs the lesson to motivate students	378 (32.5)	457 (38.8)	235 (20.0)	102 (8.7)	2.05
Total	19.69	38.73	29.06	12.52	2.35

TABLE 6 Teachers' rating scale according to curriculum elements.

Statement	Strongly disagree	Disagree	Agree	Strongly agree	Mean (M)
	<i>f</i> (%)	<i>f</i> (%)	<i>f</i> (%)	<i>f</i> (%)	
The curriculum content is clear	46 (12.2%)	73 (19.4%)	202 (53.6%)	56 (14.9%)	2.71
The objectives are clearly defined	43 (11.4%)	90 (23.9%)	194 (51.5%)	50 (13.3%)	2.67
Learning outcomes are relevant to areas, topics, and content	42 (11.1%)	102 (27.1%)	188 (49.9%)	45 (11.9%)	2.63
The curriculum enables student-centered teaching	50 (13.3%)	89 (23.6%)	188 (49.9%)	50 (13.3%)	2.63
Usefulness of other curriculum elements	50 (13.3%)	90 (23.9%)	193 (51.2%)	44 (11.7%)	2.61
Total	231 (12.25%)	444 (23.55%)	965 (51.19%)	245 (13.01%)	2.65

TABLE 7 Teachers' rating scale on collaboration in curriculum implementation.

Statement	Never	Once per semester	5 to 10 times per year	1 to 3 times per month	More than 3 times per month	Mean (M)
	<i>f</i> (%)	<i>f</i> (%)	<i>f</i> (%)	<i>f</i> (%)	<i>f</i> (%)	
Exchanged teaching materials with colleagues	19 (5.0%)	102 (27.1%)	96 (25.5%)	87 (23.1%)	73 (19.4%)	3.25
Engaged in discussions about teaching	35 (9.3%)	84 (22.3%)	98 (26.0%)	94 (24.9%)	66 (17.5%)	3.19
Participated in subject group/team meetings	37 (9.8%)	88 (23.3%)	104 (27.6%)	83 (22.0%)	65 (17.2%)	3.14
Worked on common evaluation criteria	39 (10.3%)	110 (29.2%)	83 (22.0%)	73 (19.4%)	72 (19.1%)	3.08
TOTAL	130 (8.6%)	384 (25.5%)	381 (25.3%)	337 (22.3%)	276 (18.3%)	3.17

TABLE 8 Teachers' rating scale for factors hindering curriculum implementation.

Statement	Not at all	Very little	To some extent	A lot	Mean (M)
	<i>f</i> (%)	<i>f</i> (%)	<i>f</i> (%)	<i>f</i> (%)	
Lack or inadequacy of teaching/learning materials	24 (6.4%)	39 (10.3%)	121 (32.1%)	193 (51.2%)	3.28
Inadequate or insufficient professional support	47 (12.5%)	80 (21.2%)	181 (48.0%)	69 (18.3%)	2.72
Inability to realize learning outcomes in teaching	61 (16.2%)	118 (31.3%)	139 (36.9%)	59 (15.6%)	2.52
Insufficient understanding of learning outcomes and indicators	61 (16.2%)	127 (33.7%)	132 (35.0%)	57 (15.1%)	2.49
Inadequately qualified teaching staff	74 (19.6%)	96 (25.5%)	158 (41.9%)	49 (13.0%)	2.48
Total	267 (14.2%)	460 (24.4%)	731 (38.8%)	427 (22.6%)	2.70

may lie either in overly ambitious or poorly contextualized learning outcomes or in a lack of flexibility and autonomy within classroom settings. Such challenges may represent a gap between policy-level intentions and practical teaching realities. Teachers also reported moderate difficulty in understanding the learning outcomes and indicators themselves. This points to a competency gap that may hinder consistent interpretation and implementation of the curriculum across schools. Insufficient clarity in curricular documentation or a lack of training in outcome-based education could compromise the coherence of the teaching and learning process.

Discussion

This paper aimed to examine how Career Orientation as cross-curricular area is embedded within the Core Curriculum of Bosnia and Herzegovina, focusing on three research questions. The first question addressed whether the curriculum reflects a new

paradigm of career orientation, in line with recommendations in EU policy, or whether it remains rooted in traditional approaches based on person-environment fit and decision-making. The second question explored how the curriculum for career learning is pedagogically designed in terms of learning outcomes and teaching guidelines drawing on the neo-Deweyan theoretical framework and its two dimensions—epistemological and pedagogical (Simpson et al., 2011). The third questioned students' and teachers' perceptions of the overall school's capacity for implementing cross-curricular approach including student-centered learning, collaborative and participatory teaching practices.

Findings from the document analysis indicate a partial but incomplete shift toward the new paradigm of career learning. On the surface, the Core Curriculum has adopted terminology and structural elements that resonate with the EU discourse (ELPGN, 2015; Neary et al., 2015; Mackay et al., 2021; Einarsdottir et al., 2023). However, a deeper analysis reveals that the conceptualization of career orientation within the Core Curriculum is still largely influenced by traditional paradigm. The emphasis on assessing individual

characteristics and matching them to suitable occupations echoes the long-standing person-environment fit model (Husremović et al., 2024). While the presence of workshop scenarios and experiential learning activities points to an attempt to incorporate more learner-centered approaches (Biggs, 1996; Simpson et al., 2011; Stamov Roßnagel et al., 2020), the underlying logic of these interventions often remains anchored in a prescriptive and cognitively focused model of career learning.

In terms of curriculum design, the most elaborated epistemological and pedagogical dimensions of Career Orientation are learning areas and learning outcomes. Learning outcomes are structured around knowledge and focus on students' ability to understand career-related concepts, identify occupational options and make informed decisions. What appears to be lacking is a more dedicated engagement with the practical skills and affective domain; values, attitudes, stereotypes, which are critical components of meaningful and transformative career learning (Neary et al., 2015). Life courses have become increasingly less structured and predictable. There is a growing awareness that career decisions are not a one-time event and that there will be a need for various decisions based on changes and learning throughout one's lifetime (Marciniak et al., 2020). This notion challenges the stability of the career construct and highlights the importance of gaining skills for lifelong career management and adaptability. Moreover, youth face increased challenges when transitioning from education to the workforce (Reifman and Niehuis, 2023).

The Core Curriculum acknowledges that career orientation is a lifelong process, while decision-making and maturity are identified as key career learning outcomes in this document. On the other side, career readiness and career adaptability are more often present in the international context (cf. Marciniak et al., 2020). Career learning competencies are implicitly defined through general career learning areas and expected learning outcomes, following a general approach of three main topics: understanding and developing oneself, exploring life and developing and managing one's career. Descriptors for specific competencies are missing in the context of career learning, and it is still not possible to speak of a CMS framework in Bosnia and Herzegovina.

All these suggest that while the Core Curriculum of Bosnia and Herzegovina is moving toward alignment with EU recommendations in career education, the transition is not yet fully implemented. Therefore, Career Orientation curriculum reflects a hybrid model, where new terminology and methods are introduced but not fully embedded within a new paradigm of career learning and development. This underpins the need for a more integrated and holistic approach that embraces all four curricular dimensions (Simpson et al., 2011) and places greater emphasis on the emotional, ethical and social aspects of career learning. Future revisions should aim to deepen the pedagogical and anthropological components of career learning and to design learning outcomes that address not only what students should know, but also how they feel, who they are and how they relate to different relationships and roles in society.

There are still no indicators on how Career Orientation is implemented in practice and what its outcomes are. The entire education system is undergoing curricular reform, which progresses at different paces in different parts of the country, and it is too early to assess the results of Career Orientation integration

into the national Core Curriculum. Therefore, we included data providing insight into the current implementation of the overall curriculum by students and teachers in Sarajevo Canton. The data cover main prerequisites for career education as a cross-curricular approach (Rowley and Cooper, 2009; Collins and Barnes, 2017): a shared school vision and strong collaboration, a well-designed curriculum, trained staff and a strong focus on the learning process.

Findings from this analysis suggest that students perceive student-centered practices to be present sometimes to most of the time, but not consistently. The most frequent teacher actions are traditional, teacher-controlled practices such as giving instructions and asking content-related questions. Meanwhile, elements like student agency, differentiation, motivation, and feedback are less visible, indicating a gap in the full implementation of core student-centered learning principles. However, in previous studies this proved to be a cornerstone of career education (Marciniak et al., 2020).

The data suggest that while teachers show moderate levels of engagement in curriculum implementation, significant barriers remain that limit the full realization of a paradigm shift toward student-centered and integrated learning. One of the key obstacles identified is the lack of adequate educational resources. In the context of a cross-curricular and interdisciplinary approach, this limitation is particularly constraining, because for new learning areas as Career Orientation, completely new teaching resources need to be designed. Interdisciplinary teaching requires not only subject-specific resources but also materials that support thematic, project-based and integrative learning experiences (Peschar, 2000). This suggests a gap between the intentions of curriculum reform and the structural conditions necessary for its successful implementation, also documented in other contexts (Magee et al., 2025).

The relatively low frequency of joint planning and collaboration highlights the underdeveloped culture of professional cooperation. Interdisciplinary teaching and cross-curricular integration depend heavily on collaboration among teachers, including co-planning, shared reflection and alignment of goals and assessments (Biggs, 1996; Reid and Scott, 2005). Without structured time and institutionalized support for these processes, cross-curricular efforts risk remaining isolated or superficial, rather than transformative.

Teachers' moderate understanding of learning outcomes and their implementation in classroom practice also speaks to the persistence of a traditional subject-based paradigm. Many teachers still operate within a framework focused on content delivery, individual responsibility and fragmented subject areas. The fact that many teachers express uncertainty regarding learning outcomes and indicators suggests that the conceptual and pedagogical shift required for cross-curricular teaching has not yet been internalized at scale. The evidence from education systems with higher degree of resources and development show that implementation of career learning into the everyday school practice can bear multiple challenges (Moote and Archer, 2017; Felby, 2022; Einarsdottir et al., 2023). However, this reinforces the notion that introduction of Career Orientation into the curriculum will not bring fast solutions, even more, can generate further challenges that should be dealt with pedagogical attention.

Furthermore, limited professional support and ongoing challenges with implementing learning outcomes in practice reflect

a broader tension between curriculum innovation and systemic readiness. A true paradigm shift from transmission-based teaching to constructivist, student-centered and interdisciplinary learning requires more than just curricular documentation. It demands comprehensive capacity building, including in-service teacher education, school-level leadership and policy alignment across all levels of the education system. In light of these findings, it is clear that the implementation of an interdisciplinary, outcome-oriented curriculum must be supported by enabling conditions: accessible and relevant materials, institutionalized structures for joint planning, professional development aligned with curricular philosophy and a school culture that values collaborative inquiry and shared responsibility.

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