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# Curriculum integration and teachers' training – Romanian experience

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Romanian curriculum has a strong characteristic of being discipline-based, but due to the new legal curriculum framework, it is observed that decision-makers want to direct it towards an integrated approach. The implementation of an integrated curriculum is closely related to the teachers' training. The present study explores the need for training secondary school teachers in the curriculum integration area. Our study tries to find out teachers' choices regarding teaching an integrated optional discipline and teaching disciplines from the common core curriculum in an integrated manner. Another purpose was to identify the opinions of teachers and education specialists on the need for this kind of training and the nature of the training programs for making possible the implementation of an integrated curriculum. The research has been conducted in 34 Romanian secondary schools, on a sample of 176 teachers, 7 educational specialists, and 2 school inspectors. The results show that a small percent of teachers teach integrated optional disciplines, but a high percent manage to make connections between the content of the taught discipline and other disciplines and real-life or students' experiences. For training prospective teachers to specialize in curriculum integration area, the universities must develop new courses and also allow them to have double/triple specialization, which contributes to their qualification and opening for integrated teaching. For teachers, there should be also exchanges of experience between teachers already familiar with this approach and the ones that are not familiar. Also, continuous training programs should include theoretical courses and debates, practically-applied exercises, and simulations.

**Keywords:** Curriculum integration, integrated disciplines, secondary school, teachers training.

## INTRODUCTION

This paper is a follow-up to our study published in 2019. (Constantin and Goga, 2019). In the previous article, we identified the opinions of teachers on the teaching of integrated optional disciplines in secondary schools in Romania. In the context of this research, only certain general aspects related to the teaching of integrated optional disciplines have been highlighted: useful

competencies for integrated teaching, barriers that may prevent integrated teaching, and possible solutions to overcome them.

In this article, research related to integrated teaching has continued, but from other perspectives. Thus, we wanted to know whether teachers teach integrated optional disciplines within a school-based curriculum and what their

suggestions relate to teaching core curriculum disciplines in an integrated manner. We also wanted to know what the perspectives are for initial and ongoing teacher training on curriculum integration..

### Literature review

The world we live in is constantly changing, "it is full of instability, transition, and non-linearity" (Polimeni, 2006, p. 1), and the problems are complex. Solving them requires a multi-angle approach, as well as various knowledge and skills, which are acquired not only by studying disciplines between which there are no connections (Constantin and Goga, 2019). A possible solution to develop the required skills for this changing world is curriculum integration, which represents "the organization, the relationship of school disciplines, to avoid their traditional isolation" and "the process and the outcome of the process by which the student interprets the studied contents from his/ her life experience and knowledge that he/ she has already mastered them" (Legendre, 1993, in Ciolan, 2008, p. 116).

Curriculum integration is seen from several angles, its meaning varying depending on the source. Thus, curriculum integration involves learning organized around important issues for both educators and learners (Beane, 2005). Moreover, curriculum integration focuses on broad topics without strict delimitations of the content area. In the opinion of specialists, the integration is made between two or three content areas, for example, language arts and social studies or science and mathematics (Wall and Leckie, 2017).

Curriculum integration has multiple benefits, both for students and teachers. By making connections between disciplines, as well as between disciplines and everyday life, curriculum integration leads to the development of students' cognitive, emotional, and social skills. Cognitive skills (such as deeper understanding, vocabulary development, problem-solving, high-order thinking skills) were observed by Beane (2005) as cited in Dowden (2010), Gresnigt, et al. (2014), Hall-Kenyon and Smith (2013), Krupa and Confrey (2015), Munroe (2015), Stohlman et al. (2012). Affective skills (increased school motivation, students learn more with pleasure and become more engaged in school activities) were highlighted by Beane (2005) as cited in Dowden (2010), Gresnigt et al. (2014), John (2015), and Munroe (2015). Through curriculum integration, according to Beane (2005), as cited in Dowden (2010), students acquire social skills. Also, as John (2015) observed, students acquired key cross-curricular skills, but the author did not specify them (for example critical thinking, problem-solving, creativity, communication, collaboration).

Moreover, there are benefits for the teachers involved in curriculum integration. The teachers participating in John's (2015) study stated that teaching became more creative and focused, while Gresnigt et al. (2014) observed that teachers became more active and enthusiastic. For example, one benefit of integrating music into other disciplines is the

one highlighted by Colwell (2008). She noticed that the teachers' confidence in their musical ability increased after they collaborated with music teachers. Extrapolating, we add that this kind of collaboration might contribute to increasing teachers' confidence in developing abilities specific to different disciplines, to integrate the curriculum.

### Teachers' professional development, in the context of curriculum integration

Professional development is necessary in any field of activity, even more for teachers, in whose hands lies the future of any nation and even the world (Mkpa and Ekon-Nweke, 2019). The professional development of teachers is an important factor in the implementation of the integrated curriculum (Gresnigt et al., 2014) because it has direct implications for them. As John (2015) observes, it takes time and a lot of practice. Also, an integrated curriculum involves changing the way teachers think, their beliefs, from the conception that learning is in our nature (which is not wrong) to a constructivist learning approach. It is not enough for students to memorize facts, data, or check laws and principles. They need to work together to discover knowledge, which they then apply as if they were solving real-life problems.

Therefore, it is necessary to introduce an integrated curriculum/integrated teaching courses in the faculties' curriculum framework (Niemela and Tirri, 2018; Romar et al., 2020; Stohlman et al., 2012; Zhou and Kim, 2010). Teachers who did not receive specialized courses during their university studies need courses designed for them before the beginning of the integrated program, as well as follow-up sessions after the end of the program (Gresnigt et al., 2014). John (2015) observes that it is necessary that not only teachers but all those involved in education (school principals, administrators, curriculum specialists, and parents) have to go through a systematic, explicit, and interactive training program.

### Problem Statement

Curriculum integration in Romania is in its beginning. The Romanian curriculum is a discipline-based one, but due to the new curriculum framework, we observe the decision-makers' desire for an integrated approach. The implementation of an integrated curriculum is closely related to the teachers' training in this area. As far as we know, there is a lack of Romanian research on this topic. The need for teachers' training was researched within the CRED project - "Curriculum relevant, educație deschisă pentru toți" („Relevant curriculum, education open to all"). According to this research, most of the responding teachers need a training program in the curriculum integration area, because "the new curriculum (curriculum framework and curricula) explicitly promotes the integrated approach" (CRED, 2018, p. 77).

Also, starting with 2018, the Life-Learning Education Association organizes training courses for teachers to teach

the integrated optional discipline named „Pregătiți pentru viață. Educație pentru viață și comunitate” (“Get ready for life. Education for life and community”). During these courses, “innovative methods and tools for working in the classroom to meet students’ learning needs” were presented, in an “effective learning framework” that facilitated the sharing of experiences between teachers.

With the current paper, we intend to contribute to the filling of the research gap in the curriculum integration area.

## METHODOLOGY

### Research Methods

To obtain relevant information for this paper, mixed research both qualitative and quantitative has been conducted. A specially designed questionnaire with closed- and open questions and an interview have been applied to secondary school teachers. Another interview has been conducted with educational specialists and school inspectors.

### Sampling

To identify secondary school teachers and educational specialists willing to participate in our research, we used the snowball sampling method (Johnson & Christensen, 2014; Noy, 2008). We conducted our research in 34 secondary schools, out of which 21 are located in București City and 13 schools are located in 13 counties, on a sample of 176 teachers. Also, 7 educational specialists and 2 school inspectors have participated in our research. The total number of respondents is 185.

## FINDINGS AND DISCUSSIONS

### The level of implication of secondary school teachers in curriculum integration

Out of the total of 162 respondents participating in the questionnaire-based survey very few teachers teach integrated optional discipline and even fewer designed an integrated optional discipline. More than 80% (80.25%) of the respondents do not teach an integrated optional discipline. Over 77 % (77.22%) of teachers stated that they had never been involved in the design of an integrated optional discipline, either as members of a team or individually.

### Integrated optional disciplines

As we noticed, out of the total number of teachers participating in the research, only a small part stated that they have designed (23,38%) and taught (19,75%) integrated optional disciplines. However, according to the

respondents, integrated optional disciplines are taught in the schools involved in research either at the level of one curricular area or the level of several curricular areas, some of them being taken from the national offer and other sources (United Nations Educational, Scientific and Culture Organization - UNESCO) –9 disciplines, and another part being designed in the respective schools – 18 disciplines. Even if a small percent of respondents stated that they have designed integrated optional disciplines, the research results state that teachers prefer to teach designed disciplines in their school, rather than choosing ones from the national offer.

### Integrated teaching of the disciplines from the core curriculum

The results of the interview and the questionnaire addressed to teachers highlighted the fact that, although few teachers teach integrated optional discipline, many teach the disciplines from the core curriculum in an integrated manner.

The questionnaire results showed that 67.90% of the respondents make connections with the other disciplines in almost every lesson (Figure 1).

The surveyed teachers highlighted the fact that they manage to make connections between the content of the taught discipline and real-life (Figure 2), also between the content of the taught discipline and the students' experiences (32.72% every time, 56.79% almost every time), but fewer connections with their personal experiences (13.75% each time, 29.38% almost every time).

Even if integrated teaching is not mandatory, the fact that teachers have chosen to teach the disciplines from the core curriculum in an integrated manner shows that they are aware of the curriculum integration importance.

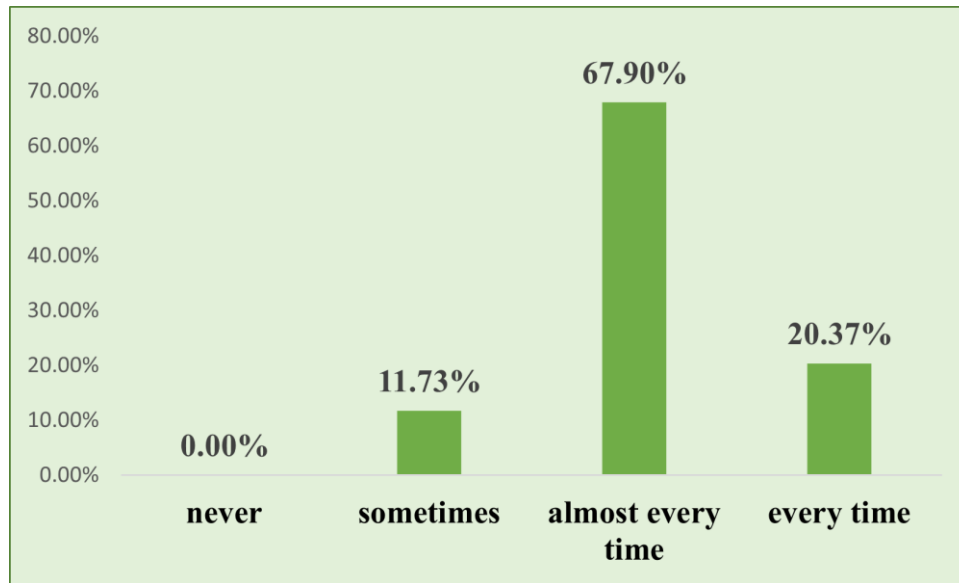
### Ideas for integrated teaching in the disciplines from the core curriculum

Table 1 shows several examples of disciplines from the core curriculum that are already taught in an integrated manner by teachers - as offered by the teachers participating in the interview.

Analyzing these examples, it became obvious that teachers know the principles of curriculum integration (making connections between disciplines and between disciplines and everyday life), and apply them in teaching the disciplines from the core curriculum.

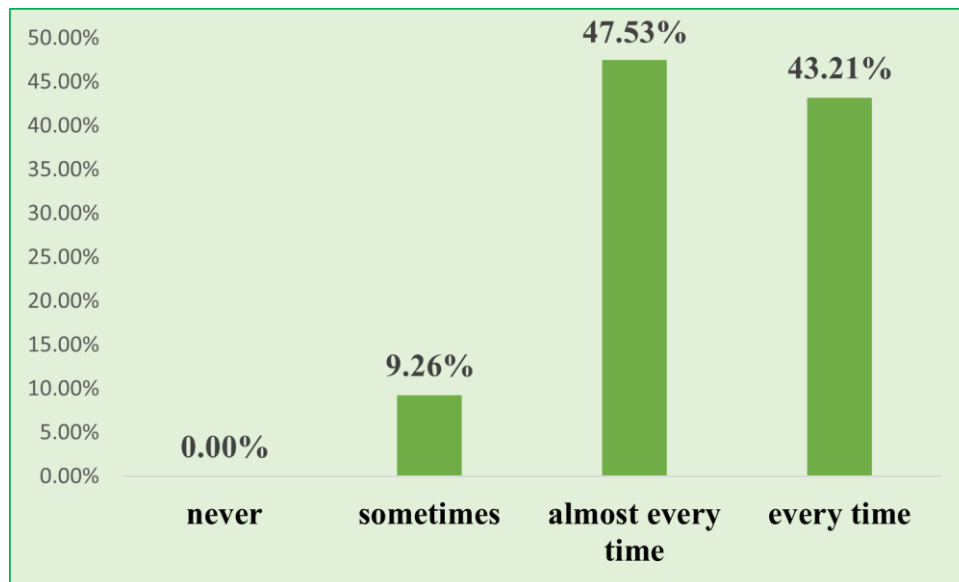
### Secondary school teachers training in the curriculum integration area

Curriculum integration is a real challenge for teachers. Those who have already designed and/or taught integrated optional disciplines call it also a real pleasure. Even if it is a challenge or a pleasure, teachers feel the full need for training. Students' learning needs, as far as the content



**Figure 1:** Connections between disciplines

Source: developed by authors, (2019)



**Figure 2:** Connection between the taught discipline and real life

Source: developed by authors (2019)

applied to daily life is concerned, are reasons to recognize that empirically integrated teaching is not the most appropriate option. Therefore, the training is not intended to be only at a continuous level, but started from the base, through the initial training. The following paragraphs will present the opinions of the participating teachers and education specialists about these two types of training. **Initial teacher training** is proposed both by the interviewees and the teachers responding to the

questionnaire. Their voices were unanimously pro the initial training in the curriculum integration area, not only at the level of psycho-pedagogical training but also on curricular areas specifically structured that teachers do not focus on a single discipline without seeing the context provided by the curricular area. These are, in short, some essential aspects of the teacher initial training in the curriculum integration area, according to the interviewed teachers and educational specialists:

**Table 1.** Examples of integrated teaching in the disciplines from the core curriculum given by the interviewed teachers

No.	Disciplines	Integrated teaching ideas given by the interviewed teachers
1.	<b>Math</b>	To calculate the perimeter of a geometric figure it is suggested to correlate this, for example, with the data needed to fence a garden; To calculate the area of a surface, the association is made, for example, with the number of tiles needed for the floor. Percentages are encountered in daily life; For teaching functions - this is related to physics, chemistry, etc.
2.	<b>English Language</b>	Regarding Readings, connections can be made with history - in terms of culture, civilization, architecture; with geography within the thematic area that imply the promotion of some geographical areas, etc.
3.	<b>French Language</b>	Mathematical contents, such as geometric shapes and basic mathematical operations, can be integrated with the teaching of numerals in French
4.	<b>Musical education</b>	Music-related notions can be associated with the names of musical instruments, as well as specific acting techniques.
5.	<b>Religion</b>	One can relate religious values to scientific truths, regarding certain aspects of the world we live in. For example, the subject of creation can bring elements taught in geography (notions of astronomy, relief, climate, etc.), history (time, language and civilization), biology (body-soul dichotomy), mathematics (sets, limits, and number axis); Relating to philosophical ideas: civic values, knowledge in the field of psychology, Social Education and Psychology can be linked

**Table 2.** Effective ways to acquire the skills needed to teach and design an integrated discipline

Effective ways to acquire the skills needed to teach and design an integrated discipline	Percentage (%)	
	teaching	designing
Individual study	33.44	30.62
Courses organized by the school inspectorates, TTC and MER	33.61	36.84
Partnerships with specialized higher education institutions	17.84	21.53
Assistance from mentors	6.64	5.26
Assistance from methodist teachers	3.73	3.35
Others	3.73	2.39

**Table 3.** Effective ways to organize continuous teachers training programs in the curriculum integration area

Effective ways to organize continuous teachers training programs in the curriculum integration area	Percentage
Theoretical chapters and debates	10.47%
Theoretical chapters and practically-applied exercises	23.84%
Theoretical chapters and simulations	9.88%
All the above-mentioned ways	54.07%
Others	1.74%

a. There is a need for initial training specific to the integrated curriculum, but also for continuous training focused on lifelong learning. An integrated curriculum for secondary education can be facilitated by the university education when teachers are trained not for a specific discipline but to be able to teach at the curricular area level (for this being necessary double/triple specialties);

b. Teachers suggest a curriculum integration course within the Psycho-pedagogical module for teacher training;

c. Teacher training and school culture (cooperation between teachers) should not be limited to an academic division of disciplines, which should determine the academic "pride" of some teachers.

**Continuous teacher training:** as far as this type of training is concerned the questionnaire respondents stated that

teacher individual study and professional courses organized by the school inspectorates, Teacher Training Centers (TTC), and Ministry of Education and Research (MER) are equally important in teacher training on curriculum integration (Table 2).

It would also be ideal for continuous teacher training programs to include not only theoretical courses but debates, practically-applied exercises, and simulations (Table 3).

## CONCLUSIONS

Correlating the data from the questionnaire responses with those from the interviews, the following findings have been

reached.

### Summary of findings

- a. It is necessary to develop, test, and validate an integrated designing model that has as reference the key European competences;
- b. The National Curriculum should include integrated disciplines;
- c. Exchanges of experience between teachers and a system that already works would be beneficial. It is also necessary to participate in demonstration classes facilitated by good collaboration between teachers who teach these disciplines (a collaboration that should not be imposed, but stimulated);
- d. Teacher individual study could include watching/assimilating video materials, lessons/activities conducted in an integrated manner, combined with European and/or international "experiences";
- e. Teacher individual study should be combined with methodical assistance;
- f. Free curriculum integration courses for trainers and school inspectors;
- g. Teachers propose a special methodical commission to be formed in every school, to deal with the implementation of an integrated teaching approach, specific to the profile of the school unit;
- h. Interviewed teachers support the initiatives of innovative teachers, as well as the promotion of good practices, and the methodological support on all channels; they also consider it important to raise parents and students' interest;
- i. Legislative measures are proposed, for example, the obligation for 2-3 integrated disciplines to be taught in every school;
- j. Incentive and rewarding measures for teachers involved in curriculum integration will support their extrinsic motivation.

### Conclusions

Curriculum integration represents one of the great challenges secondary school teachers have recently faced. After analyzing the research results, the following conclusions can be formulated:

Regarding the secondary school teachers' involvement in curriculum integration: only 22.78% of the respondent teachers have designed an integrated optional discipline and 19.75% are teaching an integrated optional discipline. However, according to the teachers' statements, many of them are teaching the discipline from the core curriculum in an integrated manner. The surveyed teachers highlighted the fact that they manage to make connections between the disciplines (67.90% almost every time), and connections between a) the content of the discipline and daily life (43.21% at each lesson and 47.53% at almost every lesson), b) the content of the discipline and the students'

experiences (32.72% every time, 56.79% almost every time), c) the content of the discipline and personal experiences (13.75% every time, 29.38% almost every time). As far as those who have gone through the initial training are concerned, teachers consider that successful training in curriculum integration requires clear directions, such as elaboration, testing, and validation of an integrated design model concerning key European competences.

### Recommendations

To implement an integrated curriculum, it proves necessary to have specific well-defined university courses where the prospective teachers could study curriculum integration. It proves also beneficial to allow them to have double/triple specialization which contributes to their qualification and opening for integrated teaching at least at one curricular area. Similar recommendations are found in other studies (Niemela and Tirri, 2018).

There should be exchanges of experience between teachers already familiar with this system and last but not least, providing methodological support on all channels. Continuous training programs would be ideal if they would include theoretical courses and debates, practically-applied exercises, and simulations. International studies prove the usefulness of initial training (Niemela and Tirri, 2018; Romar et al., 2020; Stohlman et al., 2012; Zhou and Kim, 2010) and continuous training on curriculum integration (Arrowsmith and Wood, 2015; Lam et al., 2013) suggesting that not only theoretical training but also applications, development of materials and examples of good practice (Drake and Reid, 2018; OECD, 2017), demonstrations and activities (Niemela and Tirri, 2018) are very important.

### Conflict of interests

The authors declare that they have no conflict of interests.

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