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Explicit Relational Reasoning Skills: An Index for Fostering Thinking in Biology Textbooks

Vered Alboher Agmon, Nicoleta Laura Popa

Explicit Relational Reasoning Skills: An Index for Fostering Thinking in Biology Textbooks

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Abstract	
Keywords: Biology textbooks; Relational Reasoning skills; Analogy; Antinomy; Anomaly; Antithesis; Higher-order thinking skills.	Even in the 21st century, textbooks can play a significant role in fostering higher-order thinking skills (HOTs) for effective learning and understanding. Still, HOTs like analogies used in biology textbooks may miss their purpose in promoting in-depth understanding. Since most analogies are presented implicitly or partially explicitly, they lack an explicit mapping to explain the analogical pattern between the source and the target. This study examines the degree to which implicit and explicit expressions of four Relational Reasoning skills (RRs): Analogy, Antinomy, Anomaly, and Antithesis, appear in three biology textbooks taught in Israel's junior high school. Qualitative content analysis crosses four predetermined criteria (C1-C4): RRs' type, texts' type (T1, T2, T3), 'mapping process', and 'use-skill indication'. The quantification of the findings provided information on the RRs' distribution and prevalence. The study's findings indicate that only 14% of texts appear with explicit expressions for RRs, mainly in antinomies questions (T2). Although about 32% of the various texts in biology include instructions for learners to activate HOT by using RRs, they are presented at a partially explicit level. Moreover, less than 2% of activities (T3) explicitly enable HOT by using RRs to solve problems. This study expands the theoretical knowledge of analogies to all four RRs. Methodologically, the study presents explicit mapping processes developed for antinomies, anomalies, and antitheses. The implications of the RRs' degree of explicitness are discussed as an effective index of learners' scientific understanding

Zusammenfasung	
Schlüsselworte: Lehrbücher der Biologie; Fähigkeit zum relationalen Denken; Analogie; Antinomie; Anomalie; Antithese; Denkfähigkeiten höherer Ordnung.	Auch im 21. Jahrhundert können Lehrbücher eine wichtige Rolle bei der Förderung von Denkfähigkeiten höherer Ordnung (HOTs) für effektives Lernen und Verstehen spielen. Dennoch können HOTs wie Analogien, die in Biologielehrbüchern verwendet werden, ihren Zweck verfehlen, ein tiefes Verständnis zu fördern. Da die meisten Analogien implizit oder teilweise explizit präsentiert werden, fehlt ihnen eine explizite Abbildung, um das analoge Muster zwischen Quelle und Ziel zu erklären. Diese Studie untersucht, inwieweit implizite und explizite Ausdrücke von vier Fähigkeiten des relationalen Denkens (RRs): Analogie, Antinomie, Anomalie und Antithese in drei Biologielehrbüchern vorkommen, die an Israels Junior High School gelehrt werden. Die qualitative Inhaltsanalyse kreuzt vier vorgegebene Kriterien (C1-C4): RRs-Typ, Texttyp (T1, T2, T3), "Mapping-Prozess" und "Use-Skill-Indikation ". Die Quantifizierung der Befunde gab Aufschluss über die Verbreitung und Prävalenz der RRs. Die Ergebnisse der Studie zeigen, dass nur 14 % der Texte mit expliziten Ausdrücken für RRs erscheinen, hauptsächlich in Antinomiefragen (T2). Obwohl etwa 32 % der verschiedenen Texte in Biologie Anweisungen für Lernende enthalten, HOT durch die Verwendung von RRs zu aktivieren, werden sie teilweise explizit dargestellt. Darüber hinaus aktivieren weniger als 2 % der Aktivitäten (T3) explizit HOT, indem sie RRs verwenden, um Probleme zu lösen. Diese Studie erweitert das theoretische Wissen um Analogien zu allen vier RRs. Methodisch stellt die Studie explizite Kartierungsverfahren vor, die für Antinomien, Anomalien und Antithesen entwickelt wurden. Die Implikationen des Grads der Explizitheit der RRs werden als effektiver Index des naturwissenschaftlichen Verständnisses der Lernenden diskutiert

1. Introduction

Science textbooks are still a common learning tool for students and teaching tool for teachers. Therefore, their role in fostering High Thinking Skills (HOTs) is necessary to achieve the in-depth understanding required for science literate in the 21st century. In biology, the importance of presenting connections between abstract concepts is essential for learners' understanding, to generate new ideas and to solve problems. However, biology textbooks were found in previous research ineffective in promoting HOTs, in the aspect of lack explicitness, meaning without providing explicit explanations to the connections, i.e., for the relations between the scientific concepts presented. To effectively process scientific data, Relational Reasoning ability is crucial in identifying significant patterns of relations such as similarity and

difference, contrast, inconsistencies, and anomalies which are necessary for many high-thinking situations to acquire new knowledge. Thus, it is essential to incorporate processing textual information with Relations Reasoning skills (RRs) - Analogy, Antinomy, Anomaly, and Antithesis, into curricula and school learning materials (Alexander, 2017). Still, the limited previous work conducted on textbooks analyzed focused on analogies, and indicated that analog mapping process was neither fully explicit, nor partially explicit. Since the degree of explicitness is essential to minimize misconceptions in scientific explanations, analogies may not be effective to fulfill their role for achieving scientific understanding (Orgill, 2013). Accordingly, the present study aims to examine implicit and explicit RRs expressions by determine mapping -criteria, not only for analogies, but for the all four RRs. Three biology textbooks taught in junior high school for 8th grade in Israel were analyzed. The implications of RRs explicitness on the development of HOTs for understanding in the biology textbooks will be discussed.

2. Theoretical foundation

Many previous studies have examined the development of HOTs in science textbooks (e.g., Devetak & Vogrinc, 2013; Irez, 2009; Pratama & Retnawati, 2018; Roseman et al., 2010; Sanders & Makotsa, 2016; Vojíř & Rusek, 2019). Many studies have dealt with analogies in teaching and learning processes (e.g., Holyoak & Thagard, 1989; Thiele & Treagust, 1995), but only a few engaged with the development of criteria for analyzing analogies in the content of science textbooks (Curtis & Reigeluth, 1984; Orgill & Bodner, 2006; Orgill, 2013). Nevertheless, no study has examined the extent to which all four RRs other than analogy, namely antinomy, anomaly, and antithesis, appear in textbooks.

Being common learning materials for students (Williams & Agosto, 2012), science textbooks must conform to the requirements of the updated 21st century skills curriculum such as HOTs for understanding (Bayrak-Ozmutlu, & Yaylak, 2021). Pratama & Retnawati (2018) suggested that teachers' practicability to train students for high thinking would increase as more HOTs are engaged in textbooks. Therefore, the content included in science textbooks should involve high thinking (Bayrak-Ozmutlu, & Yaylak, 2021).

2.1. What do the findings say about HOTs in biology textbooks?

Some analyses conducted on biology textbooks are based on three high levels of thinking following Bloom's updated taxonomy - analysis, synthesis, and evaluation (Anderson & Krathwohl, 2001), and they indicated a mixed but insufficient trend in developing HOTs. For example, developing HOTs in biology textbooks for a vocational school has been declared as a failure (Rozi et al., 2021). On the other hand, a study in Indonesia suggested that about two-thirds of biology items are at the analysis level. However, at the level of creativity, problem-solving activities were found to cover less than 3% of contents and activities (Trisnayanti & Masykuri, 2021; Bayrak-Ozmutlu & Yaylak, 2021), although science textbooks should include activities that enable students to perform HOTs by using cognitive actions, such as, to relate concepts to other concepts, to classify, generalize, and apply them in finding new solutions (Trisnayanti & Masykuri, 2021). Following, the present study examined the prevalence of activities that require HOTs by application of RRs.

Several researchers measured the quality of science textbooks by their effectiveness in presenting connections as relations between representations of scientific ideas and concepts (Devetak & Vogrinc, 2013; Roseman et al., 2010). Effectiveness in biology textbooks is necessary for students to achieve scientific understanding through externalizing relations between the representations and models of theories and concepts (Stern & Roseman, 2004). However, scientific concepts can appear in textbooks imprecisely and may cause misconceptions (Irez, 2009). Although science textbooks should support students by presenting the relations between scientific ideas, it is rare to found biology textbooks with textual representations presenting explanations explicitly. Therefore, biology textbooks may not constitute support and effective learning factors as required (Roseman et al., 2010). Although this study did not directly examine the effectiveness of textbooks, the explicitness degree of RRs in biology textbooks could indicate on their effectiveness in promoting thinking and understanding.

2.2. Relational Reasoning skills (RRs) promote scientific understanding

In an age where information streams accessible and dynamic, the need for scientific understanding is essential for students to acquire scientific literacy

(Roseman et al., 2010). Scientific understanding occurs when new connections are made (Brunner, 1960), and transferred to new contexts (Perkins & Solomon, 1992). Experts in their field of knowledge, compared to novices, students should make meaningful connections between components of complex information, to implement their knowledge and to transfer it to various contexts in solving new problems (Roseman, et al., 2010). Students who are characterized as novices in their science level, need to apply HOTs to organize pieces of information by identifying differences or contrast relations, and make a critical assessment of the data with meta-cognitive awareness (Afandi et al., 2018; Rozi et al., 2021). Accumulation of studies on academic development with RR indicates on RRs' success on fostering understanding and expanding knowledge (Jablansky et al., 2020). This is due to RRs' role in processing scientific data by identifying significant patterns of similarity and different relations between abstract concepts, phenomena, systems, etc. (Alexander, 2017). Biology, like all sciences, is based on abstract representations and models that require the application of RR, in order to map the representations of different modes used, and to build the meaning of the relations. Learning with RR can promote learners' conceptualization of science. For example, Danielson and Sinatra (2017) demonstrated how coupling representations such as texts to images, could encourage learners to notice significant RR relations, that deepen their understanding (Danielson & Sinatra, 2017). The four RR skills (RRs) defined in the literature are (Alexander, Jablansky, Singer, & Dumas, 2016): a) analogy (i.e., identifies a pattern of similarity between different items of data items); b) anomaly (i.e., detects an unusual pattern of significant relations between data items); c) antinomy (i.e., detects discrepancies in the pattern of relations between data items by identifying relations of characteristics that do not belong to a particular category); d) antithesis (i.e., identifies inverse relations of the same trait to create a contrasting pattern).

Using all RRs in learning is necessary for students to activate the highest levels of thinking according to Bloom's taxonomy: analysis, evaluation and synthesis. For example, while acquiring knowledge process, students' analytical ability is measured by breaking down the problem into its components, identifying the essential features of the new problem, rearranging the elements, and identifying patterns. Moreover, Dumas

& Dong (2020) suggested that critical and creative thinking activated in creating hypothetical arguments about a scientific phenomenon also involves using RRs. Following this line of reasoning, the application of the four RRs can help students understand abstract concepts and ideas, to the depth required in biology. Consequently, it is essential to examine the contents of science/biology textbooks concerning their engagement with RRs.

2.3. The updated science curriculum for high junior schools in Israel

Textbooks are supposed to reflect the requirements of the curriculum following the objectives of science education. Accordingly, the updated curriculum in Israel (2014) emphasizes the aspiration to train its graduates to successfully face the future challenges of a dynamic and knowledge-rich society by cultivating 21st-century skills. The higher-order thinking skills required for the graduates' profiles are explicitly mentioned: comparison, arguing for individual inference, and research orientation. Information skills such as identifying and organizing information, processing information while critically examining it, building new knowledge (Ministry of Education, 2014, pp. 1-9) are also explicitly addressed. However, the gap between the declarative nature of these goals in the curriculum and the contents in the textbooks sharpens the need to analyze science textbooks and assess their quality (Devetak & Vogrinc, 2013). Researchers have called for the assimilation of RRs into curricula and the design of learning and teaching materials accordingly, due to their importance for deep learning (Alexander, 2017; Alexander et al., 2016).

Given this specific framework, the present qualitative study attempts to answer the following research questions:

1)What are the implicit expressions of the four RR skills in textual or graphical representations from the biology textbooks used in Israeli junior high school?

2)What are the explicit expression of the four RR skills in textual or graphical representations from the biology textbooks used in junior high school?

3) What is the distribution of the four RR skills in biology textbooks?

4) What is the prevalence of implicit and explicit expressions for RR skills?

3. Research methodology

3.1. Textbooks and Selection

The data for this study were collected from three biology textbooks used for eighth-grade in junior high school in Israel (Table 1). All three textbooks are adapted to the updated syllabus, included in the latest science and technology curriculum of the Israeli Ministry of Education. These textbooks are approved for use by the Ministry of Education, and are recommended and commonly used after the selection process at the school level. Specifically, the following topics for eighth grades were examined: cells, the reproductive and communication systems, and ecosystems. They were selected because they are mandatory topics in this age group's curriculum, so they have been assessed.

Table 1. Study data

No. Name of the textbook	Name of authors and year	Name of publisher
1 'Nature of Reproduction'	Bar-Ilan Institute of Integration, 2012	Worldwide, Bar-Ilan Institute of Integration
2 'Life Sciences'	Keynan et al., 2012	The Centre for Educational Technology
3 'Investigating life systems'	Ben hur, Arielli & Yarden, 2013	Weizmann Institute of Science. Ministry of Education

3.2. Data analysis

For this study, textual content analysis according to the mixed methods paradigm was appropriate was selected (Chu, 2017). To examine how qualitative data can sometimes be "quantified" for statistical analysis (Saldaña, 2021). The qualitative content analysis was performed to distinguish between explicit and implicit statements in textbooks' content, with the purpose to produce meanings and assumptions (Calado et al., 2015), as a deliberate approach (Hsieh & Shannon, 2005), by using pre-developed categories based on relevant literature findings. The quantitative content analysis is designed to uncover the occurrence of each of the analyzed units (Bengtsson, 2016). Specific, we

highlight the frequency of RRs expressions in the textbooks examined.

For this study, four criteria (C1-C4) were used to analyze the content of science textbooks based on criteria in the literature regarding thinking skills and analogies, and adapted to the other RR skills, as follows:

C1. RRs Type: Analogy; Antinomy; Anomaly; Antithesis; (Alexander et al., 2016; Jablansky et al., 2020).

C2. Text Type: T1 - literal or visual text (graphic, etc.); T2 - Question (can be accompanied by visual or verbal text); T3 - Activity (experiment, observation, project, and more). The use of the skill is examined at three levels: Passive-0- The text type does not show instructions or keywords to activate the skill. Activity 1- There is a requirement for the learner (using instructions or keywords) to practice the RR skill using a basic or low thinking level. Activity 2 - There is a requirement for the learner (using instructions or keywords) to practice the RR skill using a high level of thinking.

C3. Mapping Process: Implicit Mapping - The appearance of the skill is not explicit at all lowest level-0; Explicit partial - There is a partial explanation for the skill process and only one or two steps from the complete cognitive process required for relations mapping appear, Mapping-1; Explicit Mapping- a full description of the skill process -all stages of the cognitive process for mapping RR relations appear - highest level-2 (Orgill, 2013).

(I) *Analogical mapping* - A. Identify similar or different characteristics between the source analog and the target analog; B. Initial inference of similarity (visible), between the source and target; C. Identification of similar relations of a high order of thinking between the source analog and the target analog; and D. Application- Full explanation of the mapping process.

(II) *Antimonial mapping* - A. Identify similar or different characteristics; B. Sort into categories based on finding the similarities at an earlier stage; C. Identify a pattern of category mismatch based on finding differences between properties at an earlier stage; and D. Inclusion by classifying the unsuitable attribute into another existing category or a new category.

(III) *Anomalous mapping* - A. Identify an existing pattern by identifying properties that belong to a given pattern or category; B. Detection of an anomaly from an existing pattern; and C. Raising hypotheses for anomalies or explaining an anomaly.

(IV) Antithetical mapping for verbal representation A. Identify arguments contrary to the same phenomenon; B. Express a position regarding a counter-position but lacking well-founded arguments; C. Expressing a position and a counter-position and base them on at least one reasoning; D. Express your position and counter-position and substantiate them with several arguments.

(V) Antithetical mapping for a graphical representation (like a system of axes) -A. Identify the inverse relationships between continuous variables from the exact cause of the phenomenon; B. Provide a detailed explanation (verbal and graphical) of the opposing relationships between the variables.

C4. Use: Indication of skill use by explicit statements, such as instructions or keywords displayed in different types of texts, enable learners to use RR skills, such as: Compare, Characterize, Sort, Match, Difference Between, Resist, Support, Explain the exception. The instructions are for the learner so that he can know how to use the RR skill. The instructions can be a low order of thinking (Active LOT) when using RR or high order of thinking (Active HOT) when using RR skills (Devetak & Vogrinc, 2013).

3.3. The procedure

The steps followed in order to select and analyze the data, as well as their sequencing, are presented below.

Figure 1. The procedure steps
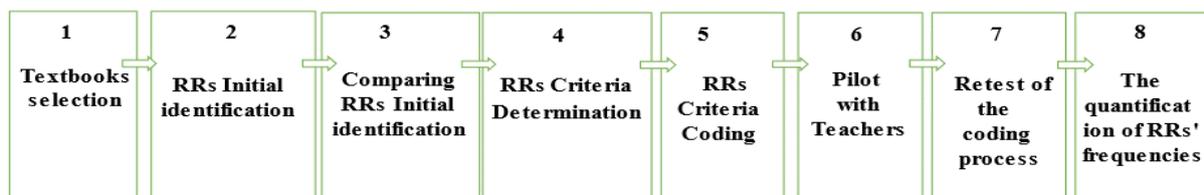
Step 1 - Three biology textbooks were selected for the 8th grade.

Step 2 - RRs in four types, analogy, antinomy, anomaly and antithesis were identified based on their definition in the literature (Appendix No 1).

Step 3 - Two coders, the researcher and a colleague, a professor emeritus who is an expert in systemic thinking in biology, performed an initial comparative analysis, of 100 pages from the textbook 'Nature of Reproduction' simultaneously but separately. Comparing the results and discussed them helped us to make agreed-upon decisions to identify the RRs according to the literature' definitions and achieved a consensus to prevent the coder's bias.

Step 4 - Four criteria were determined for examining the explicitness of RRs (C1, C2, C3, C4) (Appendix No. 2).

Step 5 - The four criteria (C1, C2, C3, C4) coded in three levels for each criterion 0-2. In sampling the developed criteria following the literature, a strategy of extracting all the texts that matched specific criteria was used (Paton, 2015). Respectively, I extracted the RRs expressions that appeared in 3 types of texts (in different representations) (T1, T2, T3). My colleague

and I applied for a critical-analytical position in associating the expressions to RR for each criterion. In the few cases where there were disagreements about other meanings of presenting the expressions to RRs, we debated together until we reached an agreement.

Step 6 - A pilot with two independent teams of 7 biology teachers from two large schools were identified the RRs' criteria. The pilot is designed to teach RR skills in ten 30-hour academic training sessions in exchange for a reward. The teachers had an M.A. in science, and only two had a B.A. in science. During four out of ten sessions, teachers were asked to identify each of the four RRs in selected content from the 'Life Sciences' textbook they teach (one of the three textbooks analyzed). In the first step, each teacher was asked to analyze expressions for each RR skill mentioned independently. In the chapter, according to the following guidelines: a) "Does a text (verbal or visual representation) appear in an expression of a particular RR skill (e.g., analogy)?"; B) "How did you identify an indication of this skill in the text (such as by keywords that match the definition of the skill learned)?"; C) "Does the text imply the skill?" E) "Does the skill appear explicitly in the text?": F) "By what did you determine this?". The second stage was

implemented in the plenum when each teacher shared the examples he was debating. Teachers' access to as many examples as possible from the textbooks helped teachers refine the nuances between the levels of each criterion (C1, C2, C3, C4) and ultimately reach an agreement on identifying a specific RR skill.

Step 7 - Three rounds of retests of reading, testing, and comparison were performed by the researcher.

Step 8 - For the quantification of RRs' frequencies, data analysis arrived at a matrix that triangulated all four criteria to four variables. Thus, the first phase was to triangulate RRs type (C1) with Text type(C2), the output of which was 12 categories:

1) Analogy – text (RR1-T1)
2) Analogy – question (RR1-T2)
3) Analogy – activity (RR1-T3)
4) Antinomy – text (RR2-T1)
5) Antinomy – question (RR2-T2)
6) Antinomy – activity (RR2-T3)
7) Anomaly – text (RR3-T1)
8) Anomaly – question (RR3-T2)
9) Anomaly – activity (RR3-T3)
10) Antithesis – text (RR4-T1)
11) Antithesis – question (RR4-T2)
12) Antithesis – activity (RR4-T3)

The second phase was to triangulate the variables that were assessed –Mapping(C3) and Use-skill (C4). The output of this was 9 categories:

1) Implicit mapping + passive use (M-0, U-0).
2) Implicit mapping + active lower-order use (M-0, U-1).
3) Implicit mapping + active higher-order use (M-0, U-2).
4) Partially explicit mapping + passive use (M-1, U-0).
5) Partially explicit mapping + active lower-order use (M-1, U-1).
6) Partially explicit mapping + active higher-order use (M-1, U-2).
7) Fully explicit mapping + passive use (M-2, U-0).

8) Fully explicit mapping + active lower-order use (M-2, U-1).
9) Fully explicit mapping + active higher-order use (M-2, U-2).

The final phase was to triangulate the 12 categories from step 1 with the 9 categories from step 2. The output of this was 108 categories, which can be seen in Figure no. 5 in the findings chapter.

3.4. Reliability

In analyzing and coding the content units for RR skills, several strategies were used:

(1) Coding of three textbooks from the same age group enables the coding consistency of RRs tested to be maintained, preventing the coders' bias in the analysis.

(2) Experts' validity– two coders, the researcher and a colleague, a professor emeritus who is an expert in the field of thinking in biology. In addition, two coding teams - 7 teachers in each team – were trained in learning RR skills separately and independently. They constituted an additional strengthening reliability for coding the RR skills.

(3) Repeating analysis included reading, testing, and comparison in three rounds, in all three textbooks following the pilot study and, thus, strengthened the reliability of the coding.

4. Results

The findings of the quantitative and qualitative analysis refer to the research questions and appear in four figures (Figures 2-5), respectively. The qualitative findings relating to the first two research questions regarding the appearance of implicit and explicit expressions for RRs in various texts in biology appear in Figure 2, which shows examples for the antinomy skill in each text type (T1 – T3).

The degree of explicitness of antinomy was explored using the mapping process criterion that includes the cognitive actions required to identify an antinomy pattern at three levels (M0-M2). Implied text means a text that does not demonstrate any of the cognitive actions needed for an antinomy mapping process, whereas explicit text means that the whole mapping process is described in the text, including the antinomy pattern, whose identification is required for a high cognitive level. The criterion for the use of antinomy appears in three levels (passive text without instructions in the text to use of skill, active text that includes instructions for the learner to use the skill

while exercising low thinking order, and active text that contains instructions for using skill while operating high thinking order (U0-U2). The arrow direction in figure 3 indicates an upward trend starting from the text's lowest effectiveness index (M-0, U-0), to the highest effectiveness index (M-2, U-2), as for example, the leftmost taxonomy between two species belonging to two different classes. Apart from the picture, no description explains the relations between the species and a lack of instructions for the learner to identify the antinomy pattern, the category of the particular species in this picture, based on similarities and differences between the two categories. Thus, this particular example characterized by implicit expressions of antinomy and passivity, i.e., without instructions for antinomy skill use at low or high level of thinking. The second text describes a picture that deals with the embryonic development of different species. The level of explicitness for antinomy is partial (M-1). Because the learner must pay attention to the similarities and differences between the categories of development in each creature and between the animals. However, there are no explicit instructions for the student to use the antinomy (U-0). The two middle texts are rated at the same level of partial explicitness but differ in the level of thinking about the use of antinomy. The text that deals with organizational levels activate the student to a low level of thinking by using antinomy in matching the cell to a certain level of organization (M-1 U-1). On the other hand, the following example explains to the student the categorical distinction between parents and chicks and chicks. Still, it raises antinomy thinking to a high level by requiring the student to exercise an evaluation and explanation that indicates his scientific understanding (M-1, U-2). The last two texts are at the highest explicitness and skill use. The difference between them is in the type of text. The penultimate example asks the student to explain the antinomian pattern of mapping by explain the particular characteristic that is not belong to the living being's category but to another category. The rightmost example is the index of success (M-2, U-2) of activity-type text (T3) that activates the learner to use explicit high-thinking antinomy when deciding on the type of organism to the habitat and explaining its benefit. These kind of activity deals with a problem and requires from the student to construct new knowledge when organizes it into a new scientific category.

Figure 2. Qualitative Textual analysis an Antimonial example

The Antimonial Mapping Process included:

A. Identify similar or different characteristics.

B. Sort into categories based on finding the similarities at an earlier stage.

C. Identify a pattern of category mismatch based on finding differences between properties.

D. Inclusion by classifying the unsuitable attribute into another existing category or a new category   .
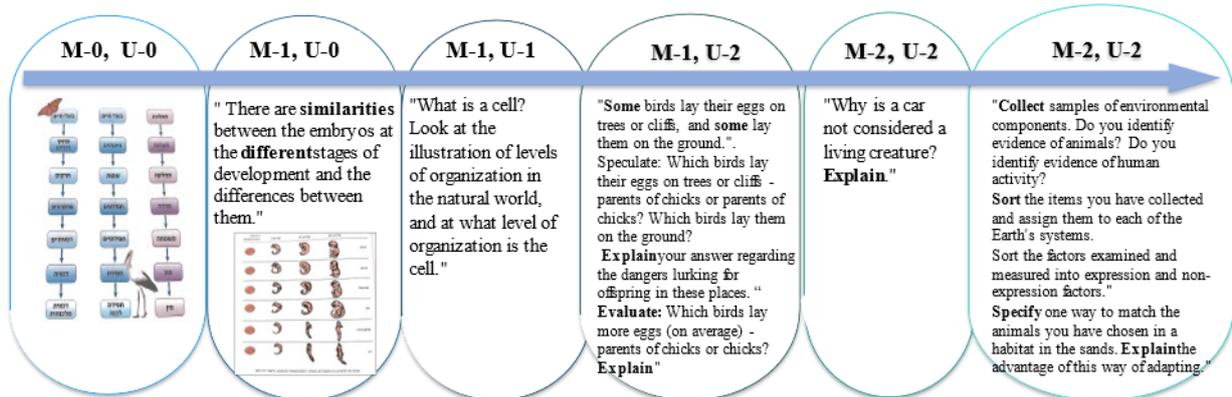
The distribution of RR skills, referring to study question 3 as demonstrated in Figure 3. According to the findings, the distribution of RR skills is heterogeneous. Compared to other RR skills, antinomy expressions are significantly more prevalent. These findings are in contrast with previous work, emphasizing the popularity of analogies in science teaching (Lovett & Forbus, 2017). In the textbooks we analyzed antinomies appeared in a larger ratio among other RR skills.

The results obtained from crossing the two pairs of criteria refers to research questions 4 about the prevalence of the four RRs in all three textbooks examined as shown in Figure 4. Two cross-pairs of variables representing the four qualitative criteria were

coded quantitatively for calculating frequencies. The Horizontal title bar indicates the type of RR skill (RR1-RR4) in the crossover with the text type (T1-T3). The left column shows the mapping for explicit (M1-M3) crossing with the use of skill (U1-U3), according to the level of thinking. The appearance of the variables in descending order (shown in the top-down column), from the level of implicit cross-mapping with a no use indication of RR skills (M-0, U-0), to the highest level of explicit mapping cross with the highest level of thinking (M-2, U-2).

Figure 3. The distribution of RR skills
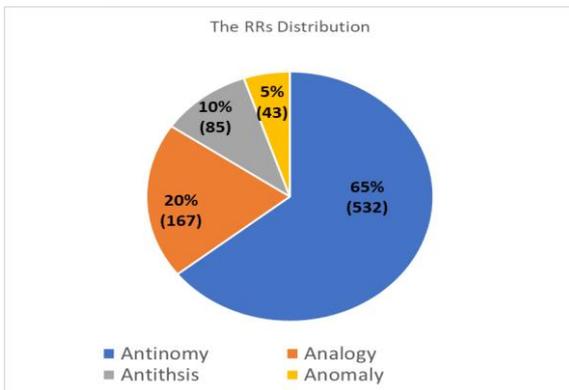
Prominent findings from 827 types of texts, reflect that the number of passive RRs text types is smaller (U-0 = 29%) than the number of RRs texts that use a high or low level of thinking, while the number of the types of texts running low level of thinking (U-1 = 38%) is slightly higher than the number of texts running with high level of thinking (U-2 = 32%), with an insignificant gap of 5% between them. In a horizontal line indicating the cross variables M - O, U

- 1, the highest number in the total 197 (about 24%), implied texts use low-thinking RRs. Some of relevant research findings are the following: 129 Questions included expressions for antinomy; 26 questions included expressions for analogy; 23 questions included expressions for antithesis; and five questions had expressions for an anomaly. Hence, the highest number of assignments in the textbooks contain instructions for the learner to exercise implicit antinomies at a low level of thinking. Another notable finding, in a horizontal row (M-1, U-2), refers to the 109 texts to activate RRs that appear in them semi-explicitly but require their use at a high level of thinking: 70 questions for the learner to activate antinomies at a high level of thinking; 17 questions for the learner to apply analogies at a high level of thinking; 13 questions for the learner to activate antitheses at a high level of thinking, and only one question for a learner to activate an anomaly for a high level of thinking. With a similar frequency and small difference, 99 semi-explicit texts were found for low-thinking RRs (M-1, U-1). Compared to the other findings, a small number of all texts' type (about 7%) appear for explicit RRs and require the learner to activate them at a high level of thinking (horizontal line M-2, U-2). An interesting finding highlights that only 13 activity tasks (T3), and less than 2%, containing explicit RRs' expressions with high level demanding, of them, nine analogs, four antinomies, two antitheses and without any activity task of anomaly.

Figure 4. Summary of the prevalence of RRs results in a crossover with mapping, usage, and text type

	RR1-T1	RR1-T2	RR1-T3	RR2-T1	RR2-T2	RR2-T3	RR3-T1	RR3-T2	RR3-T3	RR4-T1	RR4-T2	RR4-T3	
	Analogy-Text	Analogy-Question	Analogy-Activity	Antinomy-Text	Antinomy-Question	Antinomy-Activity	Anomaly-Text	Anomaly-Question	Anomaly-Activity	Antithesis-Text	Antithesis-Question	Antithesis-Activity	TOTALS
M-0, U-0	22	0	0	88	0	0	9	0	0	4	0	0	123
M-0, U-1	0	26	8	0	129	6	0	5	0	0	23	0	197
M-0, U-2	0	18	9	0	52	7	0	1	1	0	13	1	102
M-1, U-0	11	0	0	56	0	0	12	0	0	0	0	0	79
M-1, U-1	0	17	1	0	68	2	0	3	0	0	7	1	99
M-1, U-2	0	17	2	0	70	6	0	1	0	0	13	0	109
M-2, U-0	14	0	0	15	0	0	6	0	0	3	0	0	38
M-2, U-1	0	3	3	0	8	2	0	4	0	0	4	0	24
M-2, U-2	0	9	7	0	19	4	0	1	0	0	14	2	56
TOTALS	47	90	30	159	346	27	27	15	1	7	74	4	827
												827	

The cross-frequency data for RRs are visually represented in pie charts as a matrix, in two elements, color, and size, as shown in figure 5. The chart makes it possible to represent different but complements the significant trends of the findings in the table. Thus, a different color for each segment in the pie represents

the pairing of the skill type with the text type. In comparison, the gray color represents the pie segments representing the distribution of the findings of the other categories that are not relevant to the type of text represented in each line. The pie size varies according to the number of passive or active texts in the degree of use of RRs according to levels of thinking, in cross-

reference with the explicit level of these skills. Significant trends are emerging from the matrix of the pie charts :

▪ The pie size is getting smaller, indicating a small number of text types in which the level of explicit mapping to RRs and the degree of active use of skills for high-level thinking is increasing. And vice versa. The increasing pie size indicates many passive text types in which the allusive or partially explicit level of RR expressions includes their use at a basic level.

▪ The giant pie on the left side in the horizontal middle row illustrates the highest number of tasks (24%) with implicit RR expressions and low activation of thinking order, mainly questions that referred to antinomy expressions. In the other hand, the number of RR expressions for the anomaly in all types of texts and at all explicit levels and the use of thinking appears with the lowest frequency, as represented by the size of the smallest pie segment.

▪ The size of the left pie in the top horizontal row of the matrix represents the most significant number of implicit and passive texts found for RRs, with the highest frequency for the antinomy phrases compared to other RRs. In contrast, the rightmost pie in the lower horizontal row in the matrix indicates a small number of texts of all types (7%) found at an explicit level for RRs and a level of using them with a requirement for high thinking. Of these, a minority of task-type texts (in pie segments painted in a different color than gray)

included the use of explicit analogy, antinomy, and antithesis expressions to activate students at a high level of thinking.

▪ In summary, from Figures 4-5 the results indicate several trends:

▪ RRs expressions (Analogy, Antinomy, Anomaly, and Antithesis), appeared in all types of texts but in a heterogenic distribution

▪ The number of all types of texts with implicit RRs, in different thinking levels of the used skill, is significantly higher (51%) than the number of the texts types that are partially explicit (34%) or explicitly expressed in terms of RRs (14%).

▪ There is a high frequency of questions relating to RRs (T2- 63%), at all explicit and implicit levels, appears to be significantly higher than verbal or visual texts (T1-29.5%), or activities (T3 -7.5%). From the question-type texts, there is a high frequency of antinomy questions at an implicit level, with the requirement for a low level of thinking (23%).

▪ The number of types of texts running low level of thinking (U-1- 38%) is slightly higher than the number of texts running with high level of thinking (U-2 -32%).

▪ Activity text type (T3) at the highest level of explicitly and the high thinking level of using RRs were found with the lowest frequency of all the texts types analyzed (less than 2%).

Figure 5. The Prevalence of RRs results
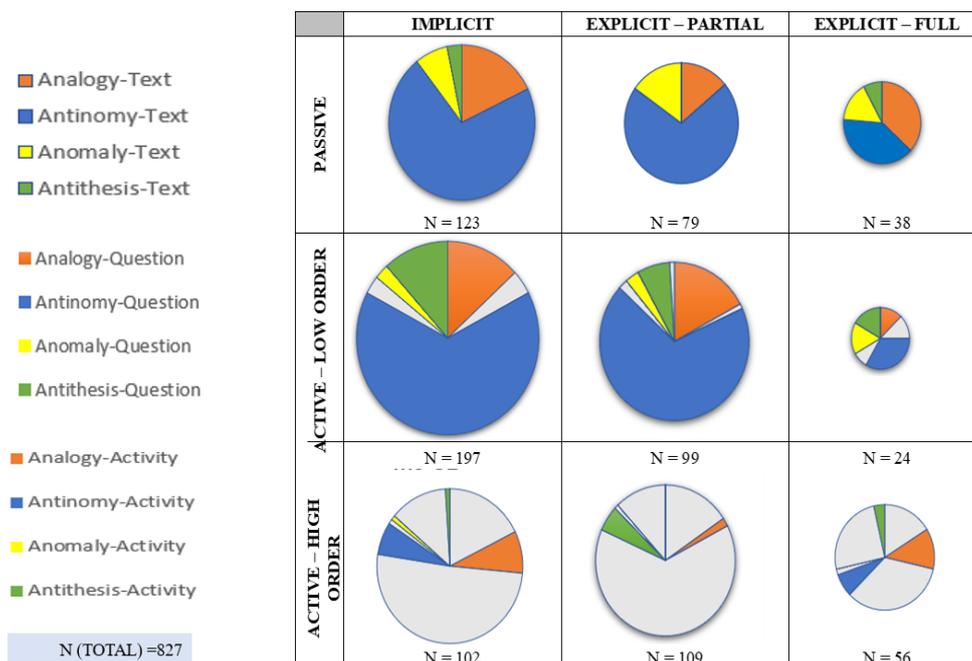
In this study, combining a text containing explicit requirements for learners to apply RRs at high levels of thinking and an explicit mapping to RR skills may indicate the success index of biology textbooks for developing high thinking skills. From the pie chart and table trends, this measure of success has not been realized sufficiently.

5. Discussions

The findings suggest that the distribution of RRs is heterogeneous: antinomy appears most frequently in all three types of texts, and in descending order are expressions of analogy, antithesis, and anomaly. These results raise a question, as analogies are more common in scientific teaching and learning processes, due to their ability to mediate abstract concepts (Goel et al., 2011; Lovett & Forbus, 2017), as suggested in the wide range of studies on analogies (Dikmenli, 2010; Irez, 2009; Seyihoglu & Ozgurbuz, 2015). Still, understanding scientific phenomena by explaining its complex relations and concepts requires abstract abilities (Chi & Van Lehn, 2012). Accordingly, antinomic thinking ability is designed to process complex content by categorizing or taxonomically classifying and diagnosing what does not fit the category definition (Alexander et al., 2016). Since every concept and taxonomy appearing in biology textbooks may be considered as a category, it makes sense that high prevalence of antinomies appears in biology textbooks.

The present analysis shows that the degree of explicitness of all texts for RRs is insufficient. Thus, the frequency of expressions for RR at an implicit level is higher (51%) than the expressions for RRs at a partially explicit level (34%). Only 14% of all text types were interpreted as RRs for activation at different levels of thinking. Even if there is an explicit RR level it appears in a small percentage that is not satisfactory. The RR findings in this study are consistent with the previous reports of a lack of explicit analogies or unexplained or partially explicit analogies presented in science and biology textbooks that may create misconceptions (Orgill, 2013). Moreover, previous analyses of science textbooks have rarely explained connections between scientific ideas (Rosman et al., 2010).

The findings indicated a slight difference between activating texts based on the question or activity type that required high-thinking (32%), and texts that required low-thinking (38%). Nearly a third of the texts were passive, i.e., they did not require instructions for using RR skills. The findings are interesting because they contradict previous analyses of analogies, showing that none of the scientific and biology textbooks reviewed included a general statement regarding the use of analogies, or how students should use analogies to learn (e.g., Orgill & Bodner, 2006; Orgill, 2013). Instead, there is no consistency between the current findings and the literature regarding how students should use HOTs to learn science. (e.g., Orgill & Bodner, 2006; Orgill, 2013). Furthermore, even if there is a reference to high-level thinking with RRs in the examined texts, in light of the previous contradictory findings, the findings do not indicate consistency. On the one hand, it is argued that science textbooks are not an adequate source for HOT development (Rozi et al., 2021). On the other hand, there is evidence that science textbooks in Indonesia appear to contain over two-thirds of items requiring high-level reasoning (Trisnayanti et al., 2021).

Since the analyzed textbooks reflect the updated science curriculum for junior high school that explicitly encourages high thinking skills, we can assume that this explains the trend of over a third of items for RRs found in a high order of thinking. However, it is essential to emphasize that there is insufficient development of high thinking with RR in activities. For example, when the instructions for the activity with the playing cards in the textbook include antinomic thinking from the students due to the requirement to sort the reproductive characteristics of living creatures and assign them to certain traits, this is done without explicit reference to explain the sorting methods used to create the new categories. The analysis on RRs indicates that the percentage of activities dealing with problem-solving that implies further information processing is minimal (less than 2%). This finding is consistent with the accumulation of findings and researchers' claims about the ineffectiveness of scientific textbooks expressed in the absence of problem-solving activities, designed to create patterns and build new knowledge of personal significance to them (Kabapınar, 2007; Bayrak-Ozmutlu & Yaylak, 2021).

The success index of biology textbooks is a combination of explicit texts for RRs i.e., mapping process for RRs, along with explicit instructions for the learner to use any RR skills, by knowing how to apply a high level of thinking like in problem-solving.

In the textbooks analyzed in this study, only 7% of activity-type texts were found, and these are most probably insufficient deep to ensure scientific understanding.

6. Conclusions

The explicit degree of all four RRs is the biology textbook is rather low, compared to high prevalence of the implicit RRs. Expressions of RRs (Analogy, Antinomy, Anomaly, and Antithesis) appeared in all types of texts but in a heterogenic distribution, and antinomies seem to have a higher frequency. The biology textbooks mostly feature question-type texts that guide learners on using RRs at different levels of thinking, (high and low), with an almost similar frequency. Only a small and limited percentage of the texts are activities requiring HOTs when using RRs expressions. Although we aimed to develop an index for mapping biology textbooks for RR skills, the process is still at the beginning. Criteria used for data analysis should be further refined and better circumscribed.

At the theoretical level, the findings extend the previous knowledge that referred only to the analogy, and rather neglected of the other three RR skills (Antinomy, Anomaly, and Antithesis). At the methodological level, the research offers qualitative content analysis according to pre-known categories and the qualitative findings were quantified to contribute to their in-depth understanding. At the practical level, the research contributes to applied knowledge related to learning and understanding at a high order thinking level in biology textbooks, and can be successfully transferred to other cultures and educational systems.

It is necessary to develop science textbooks adapted to the curriculum that emphasizes explicit meta-strategic knowledge on the characteristics of RRs and when, why, and how to use them. This can be done by mentioning the explicit name of the RR skill (analogy, antinomy, etc.); by mentioning 'what' – through explicitly detailing the process of mapping RRs; by mentioning 'how' to use it, and by mentioning 'why'- through presenting the purpose of the skill and when used. Further research to examine the texts in which RR skills appear, intended for the use in teaching and learning biology, is certainly highly recommendable.

Appendix 1

The RR skills expressions in textbooks

Analogy expressions - To find the common principle is comparing similarities and differences between different processes, in different systems, in various representations (where each representation is an analogy).

Antinomy expressions - To identify differences resulting from mismatches of characteristics, sorting and classification into categories, as well as what does not belong to a particular category or the definition of a concept.

Anomaly expressions - To detect deviation from the norm, abnormal phenomenon, abnormal behavior.

Antithesis expressions - To find conflicting values in a graph with continuous variables, or contradictory arguments for and against texts, for the same given phenomenon.

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Exploratory Approach on Identification the Dimensions of Pedagogical Competence

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Exploratory Approach on Identification the Dimensions of Pedagogical Competence

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Abstract

Keywords:
pedagogical competence; teacher training programs; dimensions of pedagogical competence; teacher training; professional development of teachers.

In their activity in schools - regardless of the years of teaching experience and the opportunities to practice teaching skills - teachers need to constantly improve their pedagogical competence. Working directly with the students leads to an observation of their evolution, from one generation to another, but at the same time to an identification of imprint that socio-cultural field's evolution puts on them and on their training needs in school. Teachers identify these wishes because, after all, the school must be connected to the demands of the social environment in which it operates. As a result, we believe that trainers need to recognize components of pedagogical competence and this fact will lead to a deeper awareness of skills they have to master, those they should develop or improve continuously in order to obtain visible formative achievements within the school, but also their professional identity. Our approach presents results of a focus group based on mapping main components of pedagogical competence. Therefore, present article emphasizes on importance of these skills; based on the results obtained through focus group conducted on teachers and pupils, we identify the main dimensions that compose pedagogical competence. In the end, we established ways to develop these competences integrating actions from teachers training programs.

Zusammenfasung

Schlüsselworte:
Pädagogische Kompetenz; Lehrerausbildungsprogramme; Lehrerfortbildung; Dimensionen pädagogischer Kompetenz; Berufliche Weiterentwicklung von Lehrern.

In ihrer Tätigkeit an Schulen müssen Lehrkräfte – ungeachtet der langjährigen Unterrichtserfahrung und der Möglichkeiten zur Einübung pädagogischer Fähigkeiten – ihre pädagogische Kompetenz ständig verbessern. Die direkte Arbeit mit den Schülern führt zu einer Beobachtung ihrer Entwicklung von einer Generation zur nächsten, aber gleichzeitig auch zu einer Identifizierung der Prägung, die die Entwicklung des soziokulturellen Bereichs auf sie und ihren Ausbildungsbedarf in der Schule hinterlässt. Lehrer erkennen diese Wünsche, denn schließlich muss die Schule mit den Anforderungen des sozialen Umfelds verbunden sein, in dem sie tätig ist. Daher glauben wir, dass Trainer Komponenten pädagogischer Kompetenz erkennen müssen, und diese Tatsache wird zu einem tieferen Bewusstsein für Fähigkeiten führen, die sie beherrschen müssen, die sie kontinuierlich entwickeln oder verbessern sollten, um sichtbare Bildungserfolge innerhalb der Schule zu erzielen, aber auch ihre berufliche Identität. Unser Ansatz präsentiert Ergebnisse einer Fokusgruppe, die auf der Abbildung der Hauptkomponenten pädagogischer Kompetenz basiert. Daher betont dieser Artikel die Bedeutung dieser Fähigkeiten; Basierend auf den Ergebnissen der Fokusgruppen, die mit Lehrern und Schülern durchgeführt wurden, identifizieren wir die Hauptdimensionen, aus denen sich pädagogische Kompetenz zusammensetzt. Am Ende haben wir Wege gefunden, diese Kompetenzen zu entwickeln, indem wir Maßnahmen aus Lehrerausbildungsprogrammen integriert haben.

1. Introduction

Pedagogical competencies require the configuration of teachers' efforts in order to understand the learning process experienced by students, to obtain an anticipatory vision regarding the future of the educational process and to build a reflexive pedagogical strategy. This implies the continuous development of teachers' competence and an increased interest in instructional design activities.

Inside one socio-educational context that requires constant adaptation on the part of teachers, teacher training programs can be sized in such a way as to respond to these needs of permanent training.

Identifying the main dimensions of pedagogical competence would be an important step in this endeavor because they can give a functional meaning to any didactic action.

In the past years, worldwide, there has been an increase interest in concerns for changing the teacher training programs and for adjustment of curricula according to development at social and cultural level. Such kind of context has required the adaptation of

teachers' skills that must be rethought in pedagogical training system, in such manner the need for pedagogical competence training has emerged.

Teacher training programs have a double role: it helps to develop the professional and scientific skills of future teachers, but also to build an effective learning path for students. At the same time, primary goal of a teacher training program is to prepare for the future, not only for the present educational challenges.

2. Theoretical foundation

Competence develops through the individual increasing of multiple learning opportunities (Kunter et al, 2013) and can be moderated by the specific characteristics of each person.

Teacher's pedagogical competence reflects his ability in terms of holistic and innovative approach to instructional process, but also the contributions he can make to development of learning in formative approach. Recent studies reflects that there is an influence of professional competence and pedagogical competence on teacher performance (Murkatik et al, 2020). Competent teachers are considered to be those who have acquired knowledge and skills important for their professional training.

Pedagogic competence can also be described as teachers' availability to apply one set of knowledge, skills and attitudes (From, 2017) that could enhance the achievement of educational objectives, respecting the limitations of learning context.

Pedagogical competence is a construct that varies from one individual to another and that includes cognitive, motivational and self-regulatory characteristics that describe the teaching profession and are necessary for successful practice in order to provide a higher level of performance to teaching process.

Some studies offer integrative interpretations for the following areas of pedagogical competence (Roelofs, Sanders, 2007):

▪ Interpersonal competence - creating a friendly and open communication climate;
▪ Psychological skills - creating a safe learning environment from psychological perspectives;
▪ Competence related to didactic and scientific knowledge - ability to guide students through educational knowledge;

▪ Managerial competence - building a strict organized climate for carrying out the didactic process;
▪ Cooperation with colleagues - adapting personal activity to that of colleagues in order to contribute to institutional development;
▪ Establish a solid partnership between school, family and social environment;
▪ Ability to reflect on teacher's own ability and maintain a high professional level by connecting to current standards.

Another framework for pedagogical competences includes the following elements (Mohamed et al, 2017; Mc Ber, 2000; Anderson, 2002):

▪ knowledge of the curriculum and the subject matter/content;
▪ skills for planning instructional process and didactic strategies;
▪ effective use of didactic materials and educational technologies to improve the learning process;
▪ assuming the principles of learning developed in a personalized and individualized manner;
▪ effective management of learning context components;
▪ knowing the individual characteristics of the trainees and their level of knowledge;
▪ developing partnerships with various social services and local community;
▪ concern for professional development and improvement;
▪ willingness to try new instructional strategies;
▪ application of ethical norms and legal responsibilities specific to teaching profession.

We develop the following integrative framework for the components of pedagogical competence (Sulaiman, 2020; Apostolache, 2022):

a) Design and planning of the didactic process: developing of annual planning in a coherent and unitary manner in terms of educational knowledge, didactic projects, planning of learning activities in laboratories, workshops and nonformal activities, etc.;

b) Counseling and guiding the pupils: supporting them in school/academic issues, but also in personal problems, suggestions for school/professional orientation, resolving conflictual contexts, guidance to other professionals in pedagogical field, etc.;

c) Implementation of the instructional process: designing learning tasks, organizing them into groups,

formulating homework assignments, laboratory applications, etc.;

d) Assessment of learners' results (Herppich et al, 2018): development of evaluation tools, scheduling of assessment, supervision of learners during solving of assessment tasks, recording of grades and their communication accompanied by a concrete, particular and specific feedback, etc.;

e) Trainees group management: ensuring and maintaining school discipline, managing time and material resources, developing interactions for formative purposes at work groups level etc.;

f) Communication and interaction: vertical (with superiors or pupils) or horizontal communication (with colleagues), effective management of paraverbal and nonverbal elements of communication to emphasize the correct and complete understanding of informational messages transmitted; collaboration with all individuals involved in training process to solve various impediments/aspects of pupils' school path etc.;

g) Professional development: availability to participate in training programs (didactic, methodical, scientific field), at conferences and workshops, draw up scientific articles that help the trainer keep up with the progress made in these areas.

Embedding all the previously presented models can become an opportunity for a reflexive perspective in terms of assumption by each trainer for practical application of all pedagogical competence aspects.

Our present approach aims at emphasizing the need to analyze the pedagogical competence dimensions so that trainers will be aware of their pedagogic actions impact when working with students in didactic processes.

At the same time, it is important for developers of teacher training programs to include learning activities that offer opportunities for improving and refining the pedagogic competences dimensions. For this study, we noticed that pedagogic competence is a subject of analysis in educational sciences fields, but it would be useful to become a point of interest for the initiators of teacher training programs in institutions that offer these opportunities.

Teachers training programs need to adapt to challenges of social and cultural context. We can ask how many of the future teachers know whether teacher training programs help in building such capacities or

how willing they are to improve them. Does the training of pedagogic competence remain only an educational imperative often mentioned in decision-makers speeches or is it really a constant concern in development of teacher training programs? Consequently, it is essential to understand the extent to which providers of teacher training programs adopt the real requirements and needs of teachers for strengthening pedagogical competence.

It is believed that if teachers feel understood, then they can openly accept the current challenges of didactic innovation and effectively integrate the acquired skills in professional training courses into their daily teaching activities. Regarding this issue, a number of studies (Kunter et al, 2013; Boyd et al, 2009) indicate that the way a teacher carries out his work is determined by his whole personality, not only by the acquisitions developed during the stage of initial academic training. Competent teachers are considered to be those who have acquired knowledge and skills important for their professional training. Some possible differences between certain levels of competence can be justified by the existence of quality gaps, duration and intensity of their professional training.

At institutional level where teachers training programs are carried out it is required to stipulate clear objectives related to construction of pedagogical competence, such as:

▪ identification of development level for pedagogical competence at teacher students upon entering the training system;
▪ analysis of approaches regarding the training of future teachers in the pedagogical skills field;
▪ creating integrative methods of those skills in general and mandatory framework of teacher training programs;
▪ transfer of good practices from other educational institutions.

3. Research methodology

Our research aimed to identify teachers' and students' perception about the main dimensions of pedagogic competence.

This qualitative study was carried out through an exploratory approach, using the focus group method and applying the categorical thematic content analysis. Therefore, we gathered information about the concept of pedagogical competence because the main purpose of the study was to outline a framework of pedagogical

competence, as it is viewed by teachers and students. Thus, the interview guide had the main themes defined on the basis of the synthetic structure of the pedagogical competence proposed by us in first part of this approach.

Therefore, for each theme we develop some categories that describe the opinion about what pedagogical competence means.

Objective:

Identifying perception of teachers and students about pedagogical competence dimensions.

Participants

In this exploratory approach participants were divided in two groups. They were recruited in several high schools in Iasi and were formed into two different groups, as follows:

a) first group was composed of 19 high school students;

b) the second group was structured of 17 teachers who teach at high schools.

Data Collection and Analysis

Using a focus group in this research came from a need for quick information gathering that will help in the structuring of teacher's competence framework. The following stages were completed:

a) Creating an organizing focus-groups.

b) Transcript of discussions.

c) Applying the thematic categorical analysis.

Research Tool

Present discussions were preceded by integrating the participants within the group (each of them was asked to introduce themselves and indicate if they are a teacher or a student). The participants were given a time of 10 minutes for getting to know better the moderator and other group members.

Next, the moderator presented the discussion topic, the reason why the participants were brought together in the focus group, the research topic, the scientific relevance of discussion and usefulness of the obtained results. Participants received assurances regarding the anonymity and confidentiality of information and opinions they expressed.

Group discussions lasted between 40-50 minutes. The interview guide was designed in such a way that both categories of participants would be able to access questions proposed in order to achieve our purpose, but also to get a deeper understanding of pedagogical competence concept.

It should be mentioned that some of the questions were designed with certain supporting elements, in order to come with additional explanations that were offered in situations where the participants needed elucidation.

4. Results

We built a mixed categorical thematic content analysis (one in which the categories and some themes are predetermined, but identifies other themes along the way), following the recording of answers to interview guide questions applied in the focus group conducted together with participants.

Some of the main themes were fields of pedagogical competence proposed in integrative framework from theoretical background and specifications resulted from the answers given by participants.

It is important to specify that, besides the seven themes from pedagogical competences framework in theoretical background, it turned out that participants indicate a lot of personality traits for teacher. They considered this personality aspects can be very important in strengthening the pedagogical competence.

Therefore, we developed one more theme, meaning we have eight dimensions for pedagogical competence, as follows:

Theme 1: Teacher personality traits

- Joy of being a teacher;
- Patience;
- Inner balance and contentment;
- Tolerance (x2);
- Calm (x3);
- Well-intentioned;
- Flexibility;
- Adaptability;
- Empathy;
- Sense of humor;
- Teaching talent (x2);
- Ability to be a leader.

Theme 2: Design and planning of didactic process competences

- Anticipation of unexpected situations in classroom;
- Planning learning activities according to students' level and age (x2);
- Designing home lesson projects;
- Knowing specific characteristics for each individual pupil (social, emotional, psychological factors);
- Imagination and creativity when conceiving didactic scenario;
- Differentiated learning activities by classes, group value, students (x2);
- Designing applied learning tasks, in which theory and practice are combined.

Theme 3: Counseling and guiding competences

- Suggesting active social contact with students;
- Imposing in front of the students;
- Friendly attitude;
- Fairness in mediating conflicts;
- Being a partner to trainees in learning activities;
- Taking care of children without parents;
- Requesting support of school psychologist and speech therapist in problems related to
- Development of students' personality;
- Collaborate with pupils' families (get to know the students' parents) (x2).

Theme 4: Implementation of the instructional process competences

- Using book collections, additional materials, worksheets (x2);
- Capturing students' attention through teaching methods (x2);
- Adequacy and opportunity when choosing didactic methods;
- Developing applied learning activities (x2);
- Providing exercises (graded from simple to complex) on lesson subject;
- Using examples in order to capture students' attention (x3);
- Offering homework that deepens class units;
- Prescribing useful homework;
- Encouraging team work;

- Creating a relaxed atmosphere during classes.

Theme 5: Learner's assessment competences

- Ensuring that no student cheats on tests;
- Objective assessment and feedback;
- Develop specific and diverse test items;
- Assessment according to student's progress;
- Explaining grades to pupils in order to offer concrete feedback.

Theme 6: Trainees group management competences

- Implementation of classroom rules in a balanced manner;
- Applying certain management strategies for the trainees group;
- Effective management of students' time and effort;
- Offering work tasks (responsibilities) and capturing attention of unruly students (x3);
- Providing advice, help and encouragement in class assignments;
- Checking students if they are working effective in resolving learning tasks;
- Maintaining discipline in the classroom by providing students with learning activities;
- Focusing on ways to improve the behaviors of undisciplined students;
- Facile adaptation to unpredictable situations when talking about pupils' behavior problem (x3).

Theme 7: Communication and interaction competences

- Applying active communication strategies and listening when students complaining;
- Open and dynamic attitude in communicating with pupils;
- Informal discussion with students, not only problems related to the lesson;
- Gaining respect by having a good/balanced relationship with pupils (x2);
- Easily captures the audience's attention;
- Organizing work meetings and didactic activities in which parents, representatives of the local community or specialists in various fields of activity can participate;
- Suggesting extracurricular activities
- Open to dialogue with students.

Theme 8: Professional development competences

- Keep up with the progress in both didactic and scientific field;
- Integrating in international project and mobilities;
- Participation at scientific workshops;
- Organizing workshops, conferences;
- Participation in training courses (x2);
- Book publishing or developing scientific articles;
- Research activities;
- Discovering and learning about innovative instructional methods;
- Attending conferences organized by schools or high schools;
- Giving speeches in the public space.

5. Discussions

Categorical thematic content analysis highlighted the appearance of pedagogical competence elements that are additional to those included in the theoretical model. On the other hand, we identify some previously proposed elements that were not mentioned by the participants.

Besides the seven themes from pedagogic competences framework in theoretical background, it turned out that participants indicate a lot of personality traits for teacher as being essential in improving our interpretation on pedagogical competence. They considered that personality aspects can be very important in strengthening the pedagogical competence and in capturing the whole picture of a good teacher. Therefore, we developed one more theme - *teacher personality traits.*

In order to have a complete framework for dimensions that make up pedagogical competence, we kept the elements newly mentioned by the participants and those that did not have a high frequency but we considered them relevant for defining a competent teacher, such as:

- Organizing extracurricular activities;
- Offering applied learning tasks, in which theory and practice are combined;
- Adapting to any unforeseen behavior or action that may occur during class;

- Requesting the support of school psychologist and speech therapist in problems related to development of students' personality;
- Organizing work meetings and didactic activities in which parents, representatives of the local community or specialists in various fields of activity can participate.

On the other hand, our study highlighted that trainers should demonstrate tasks as: designing tangible educational goals, encouraging and motivating participants to actively engage in learning process, using of a varied range of didactic methods and procedures, applying active educational strategies, structuring learning materials necessary to make learning more efficient, making the educational knowledge accessible in order to encourage understanding for every pupil, implementing certain management strategies for the trainees group, monitoring individual progress, establishing evaluation criteria according to educational objectives, providing relevant feedback on the grades obtained by students.

6. Conclusions

A set of pedagogical competencies has been identified in this study that includes knowledge and didactic skills, but also interpersonal abilities that contribute to teachers' professional success.

According to results obtained in our exploratory study, a program for development of teachers' pedagogical competencies (Klein et al, 2004) can be structured in three categories:

1. Activities on pedagogical competence category focused on the pupils' specific interests: the program proposes some actions for development of following dimensions:

- Building a stimulating and safe learning environment where learners are guided towards reflective thinking, self-education, self-evaluation and lifelong learning;
- Taking into account pupils knowledge background for didactic process;
- Increasing active communication within the group of learners;
- Compilation of educational resources that encourage active learning;

- Effective selection of formative and summative assessments forms to mirror objectively the quality of school results;

- Providing periodic, descriptive, encouraging and constructive feedback;

- Advising and guiding the trainees.

2. Activities on pedagogical competences that refer to teacher:

- Assessment of trainer pedagogical skills in order to obtain permanent development;

- Developing a model behavior for pupils;

- Involvement in various innovative research educational programs.

3. Activities on competences related to teacher's relationship with other colleagues revolve around the following dimensions:

- Providing and requesting feedback from colleagues;

- Sharing good practices with colleagues.

Professional development of teachers is based on (Kong et al, 2020): the existence of time slots dedicated to learning, rather than participating in different workshops; active and interactive involvement in training programs, eliminating the passive reception of information that may be unproductive; integration of practice activities within the school community in order to analyze various professional aspects, to offer support and help to colleagues, to reflect on the didactic approach they adopt; mastering the pedagogical principles regarding the accessibility of scientific knowledge that they present, regarding the stimulation of trainees learning motivation.

Concluding, as an extension to the results of our study, we can say that there are some actions to make the development of pedagogical competence more efficient, such as:

- outlining some training courses taking into account the opportunities offered by educational institution, but also development needs of the teachers;

- adapting the knowledge of teachers' professional development courses to current level of their pedagogical skills;

- an integrating framework of skills and abilities built during the pedagogical competence development

courses that include both the needs of teachers, but also the expectations of parents and pupils/students;

- the same curriculum knowledge for all institutions that organize teacher training programs.

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Development and Validation of the Teachers' Role in Conducting Authentic Dialogue Questionnaire

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Development and Validation of the Teachers' Role in Conducting Authentic Dialogue Questionnaire

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Abstract	
Keywords: teacher's role perception; authentic dialogue; teacher training program.	Teacher's role perception questionnaires exist in different domains. However, none refer to their role perceptions on conducting authentic dialogue in classrooms or with the pre-schoolers. There was a need for this type of questionnaire in order to quantitatively analyze the results before and after a preschool teacher's training program on authentic dialogue. The teacher's role perception on conducting authentic dialogue in the classroom questionnaire (TRPADQ) was based on Wubbels, Creton and Hooymaayer Questionnaire on Teacher Interaction (QTI) as described in Fraser and Walberg (1991). The article details the validation process of the questionnaire. The validation had three stages: a judicial review by early childhood pedagogical advisors and lectures with an expertise in dialogue, an Explanatory Factor Analysis (EFA) and a Confirmatory Factor Analysis (CFA).

Zusammenfasung	
Schlüsselworte: Wahrnehmung der Rolle von Lehrenden'; athentisches Gespräch'; Lehrerfortbildungsprogramm.	Fragebögen zur Wahrnehmung der Rolle von Lehrenden gibt es in verschiedenen Gebieten. Keiner bezieht sich jedoch auf die Rollenwahrnehmung von Lehrenden beim Führen eines authentischen Gesprächs in Klassenzimmern oder, um genauer zu sein, mit Vorschulkindern. Um Ergebnisse vor und nach einer Fortbildung zum authentischen Gespräch für Vorschullehrende quantitativ analysieren zu können, bedurfte es dieser Art von Fragebogen. Der Fragebogen zur Rollenwahrnehmung von Lehrenden beim Führen eines authentischen Gesprächs is Klassenzimmer (engl. teacher's role perception on conducting authentic dialogue in the classroom questionnaire; TRPADQ) basiert auf Wubbels', Cretons und Hoomayers Fragebogen zur Lehrendeninteraktion (engl. Questionnaire on Teacher Interaction; QTI), wie er bei Fischer (1995) beschrieben wird. Der vorliegende Artikel erläutert den Validierungsprozess des Fragebogens. Dieser Vorgang war unterteilt in drei Stufen: Einer fachlichen Überprüfung durch Referierende für frühkindliche Pädagogik, einer exploratorischen Faktorenanalyse (EFA) und einer konfirmatorischen Faktoranalyse (CFA).

1. Introduction

The manner that teachers perceive the use of dialogue in the classroom has the potential to either support or hinder the way children learn (Mercer, 2019). The classroom culture that dictates who and when each child is given the opportunity to speak might leave little space for effective dialogue (Mercer & Howe, 2013), as is mostly based on how the teacher perceives their role as navigating the children's dialogue or suspending it. Creating an open dialogic space where acknowledging others thoughts while listening, thinking and acting together will achieve higher levels of understanding and new knowledge will be gained (Mercer et al., 2010; Wegerif, 2011).

Przybylska (2011) explains that teachers base their activities and interactions with their students in the classroom according to their past experiences as students themselves. These life experiences can shape the way they perceive their role as teachers and have a direct effect on their professional identity. Thus, studying teacher's role perceptions of classroom dialogue, may lead to the creation and implementation of teaching practices that will promote authentic classroom dialogue. The dialogue is considered authentic because it is child centered and revolves around what interests the child. The teacher is there to listen, to ask open questions that will help the child reflect on their experiences as well as problem solve if necessary. A provision of open space for children to

voice their thoughts and turn classroom talk into an equalitarian dialogic interaction (Pehmer et al., 2015).

Adams (2002) suggests that when teachers provide a nurturing setting that promotes quality relationships based on responsive dialogue, listening capabilities and attentiveness, children tend to develop self-confidence and understand that their words matter to their teacher. They become more active learners and will achieve higher academic success. The relationship between the teacher and the child has been proven to be the most valued component in quality care education for young children (Adams, 2002).

In most countries, teachers are not specifically trained in dialogic skills, such as free talk on target knowledge in their pre-service training programs (Howe & Abedin, 2013). Therefore, they tend to continue to manage their classrooms in a traditional fashion, as they learned themselves, a manner that does not always promote the potential of full learning and understanding of the topic that children deserve (Lyle, 2008). The concept of dialogic pedagogy as described by Peled-Elhanan and Blum-Kulka (1997) is not usually incorporated into preservice or in service training. Dialogic pedagogy is generally defined as the teachers' ability to suspend their control over the discourse and knowledge. This allows the students to understand that the teacher is not in control of the questions and answers and does know everything about the topic at hand. This forms a more equalitarian function of the dialogue

Questionnaires that assess teacher's role perception with regard to a child's academic success was found, such as the Questionnaire on Teacher Interaction- QTI (Brekelmans et al., 1990; Wubbels, Brekelmans et al., 1991; Wubbels et al., 1992; Den Brok et al., 2002) however it was not sufficient to understand a teacher's perception of their role on conducting dialogue, or specifically authentic dialogue in a classroom. Therefore, it was essential for a new questionnaire to be developed in order to make an attempt to answer the research questions. Questionnaires enable the researchers to gather a great deal of data in a reliable and relatively simple manner. It is a true necessity to achieve accuracy and provide consistency in the different categories as well as between the indicators in the same category. In other words, the researcher must provide through statistical analysis, validity and reliability. To our knowledge, no research was found in the literature on instruments used to assess educational practices that promote

dialogical processes in a preschool setting, an environment where the teacher's role is of utter importance in supporting dialogical interaction.

Through an extensive literature review, several validated questionnaires of teacher's role perceptions were found. They mostly examined academic and content-based approaches for measuring successful outcomes for students' education (Levy & Wubbels, 2005), teachers' perceptions regarding their own personal and professional development (Fisher et al., 1995; Pena-Lopez, 2009; Wubbles et al., 1991), as well as the way they view the teacher's role in advancing children at all levels of development (Black & William, 1998). What was lacking was teachers' perceptions of their role on conducting authentic dialogue in a classroom, therefore, there was a need to create and validate a new questionnaire.

2. Theoretical foundation

Authentic learning is brought about through the display of **authentic classroom dialogue**, the creation of an open dialogic space (Wegerif, 2007), in which diverse perspectives are desired and not inhibited. This space allows for exploration and produces new knowledge at any given time; thus, the learning process will continue as long as the participants are taking interest (Boyd & Rubin, 2006). Multiple voices are promoted in the pursuit of understanding and exposing personal stories enabling new questions to be formed and new meanings to be constructed. This form of dialogue occurs when both participants are actively listening, responding to each other's needs and being open with each other about their thoughts and feelings. Almeida (2011) claims that teachers that assist their students in asking questions enable them to incorporate their new knowledge together with their prior knowledge.

Grobgeld et al., (2016) describe role perception as the way an individual understands what is expected of them in a certain organization. Hence, it is clear that it is a subjective view of what other's define as to the workers duties. Most people have prior perceptions of their role and this may lead to conflict if there are different perceptions of the role and tasks that must be achieved.

Teachers in different societies and culture often have very different perceptions of what their roles are. Most will agree that assisting children to adapt to their surroundings always plays a key role (Day et al., 2006). In addition, they were expected to teach topics,

discipline children, have full authority of what goes on "behind closed doors" in the classroom. Even though the pedagogy of teaching has undergone many changes over the years, most of the time, teachers' perceptions of their roles did not change so much (Wallen and Tormey, 2019). Therefore, it is imperative for teachers to understand their own role perceptions when entering a classroom in order to provide quality teacher-child interactions and realize that their roles have changed and a more equalitarian approach is needed. Today, children's social and emotional abilities are taken into consideration when they are given an individual or group task.

3. Research methodology

The present research aims to provide a validated instrument to examine teacher's perception of their role on conducting authentic dialogue in the classroom. The research question was whether the Teachers Role Perception in Conducting Authentic Dialogue Questionnaire (TRPADQ) withstand structure validity.

Research participants

The questionnaire was administered to a sample group who was comprised of 217 all-female students, whose ages ranged between 22 and 40. 100 of the students worked as kindergarten managers (46.1%), 23 of the students worked as complementary kindergarten teachers (10.6%) and 94 of the students have not begun working in kindergartens. 82 of the students were single (37.8%), 97 were married (44.7%), 25 were in a relationship (11.5%) and 13 were divorced (6.0%). Almost half of the students had children (114 students, 52.5%).

Data collection

This study was carried out using data collected online from November 2021- January 2022. The sampling was based on a convenience one, with an easy access to the participants, all were preservice teachers in Early Educational Departments in Colleges in Israel. The participants completed the online version of the questionnaire with a six-digit identity number and returned them within a seven-day period. Participation was volunteer and based on an informal consent regarding the personal data protection and other ethical aspects regarding the study.

Instrument

The instrument was developed by the researcher, aiming to examine the preservice teacher's perception

regarding their ability to conduct authentic dialogue in the classroom. It is based on Wubbels, Creton and Hooymaayer *Questionnaire on Teacher Interaction* (QTI) as described in Fraser and Walberg (1991). The *Teachers Role Perception of Authentic Dialogue Questionnaire* (TRPADQ) consists of 21 items, which are divided into two dimensions: The importance a preschool teacher sees in classroom dialogue (Questions 1-2, 4-5, 7, 9, 12, 14,16-17, 19) and the ability to promote dialogue in a classroom setting (Questions 3, 6, 8, 10-11, 13, 15, 18, 20, 21). Questions 2, 9, 11, 20, 21 are reversed scores. An example of a question is: "*I manage to conduct personal dialogue with each and every child in order to get to know what interests them*" (Table 1). A 4-point Likert scale was used giving the participants an opportunity to find the response that most closely is associated with their beliefs due to the flexibility of the answers within the options. It appeared as the following; 1- "*Strongly Agree*" to 4 - "*Disagree*".

4. Findings

The validation process consisted of the following stages: at first, three judges were chosen to review the existing research literature regarding authentic dialogic interactions and pedagogy, as well as to examine the TRPADQ. Next, Exploratory Factor Analysis *(*EFA) was conducted using the Varimax rotation in order to construct orthogonal factors, as a sample size of 217 is considered large enough for EFA when there are no missing values (McNeish, 2017). Finally, Confirmatory Factor Analysis *(*CFA) was conducted for the five-factor model utilizing several goodness of fit indices.

With regard to the judicial review, all of the judges had professional experience working with preschoolers and were acting pedagogical advisors and lecturers specializing in authentic dialogue. Drafts of the TRPADQ were sent to the judges in order to examine it. They looked for relevance, appropriateness and significance. Four indicators were dropped as they were found to be unclear and misleading and amendments were made based on their feedback. The final questionnaire consisted of 21 indicators divided into two dimensions: the importance a preschool teacher sees in classroom dialogue and the ability to promote dialogue in a classroom setting. Answers were reported on a 4-point Likert scale (from 1- "*Strongly Agree*" to 4 - "*Disagree*").

4.1. Exploratory factor analysis (EFA)

EFA analysis using Varimax rotation was conducted on the remaining 21 items which the judges unanimously agreed that measure the teachers' perception of their role in conducting authentic dialogue. The indicators and factor loadings for the TRPADQ are presented in Table 1.

Table 1. Items and factor loadings for the TRPADQ (21 items).

Items	Factors				
	1	2	3	4	5
A preschool teacher has the ability to encourage dialogue between children, which will promote their learning	.87				
A preschool teacher's role is to conduct personal dialogue with each child in order to better understand his world	.83				
I am capable of using dialogue skills to promote an optimal classroom environment	.78				
When children share personal experiences, they learn about each other	.78				
Teaching practices that promote dialogue between children develop their social skills	.76				
Cultivating emotional dialogue is essential for a child's mental well being	.74				
A preschool teacher needs to talk to children about things that they are interested in learning	.73				
I manage to conduct personal dialogue with each and every child in order to get to know what interests him		.88			
I manage to teach children to solve problems on their own through respectful dialogue with others		.82			
I allow each child the opportunity to express himself in group activities and am able to navigate between the speakers		.79			
I promote emotional dialogue in my classroom and am aware of the emotional state of each child		.76			
Frontal instruction by the preschool teacher is more effective than collaborative learning			.85		
A preschool teacher should make sure the classroom is quiet and minimize classroom chatter during a guided activity			.78		
I cannot pay attention to children's remarks while teaching a lesson			.75		
I do not allow free dialogue between the children in circle time because it affects their ability to concentrate on the subject matter			.75		
I find it difficult to conduct free open dialogue with children for fear of not knowing how to respond to behavioral problems				.90	
I find it difficult to allow children to choose their own learning methods for fear of losing my classroom authority				.89	
I am incapable of allowing children to converse amongst themselves during a lesson out of concern for not being able to regain classroom control				.85	
There must be equal speaking time between the preschool teacher and the child when conversing					.90
Promoting children's developmental needs by way of dialogue is at the heart of my teaching methods					.84
Conducting dialogue with children about their families is important to me					.78
Eigenvalue	8.87	2.49	1.87	1.63	1.38
R^2	23.916	38.760	52.619	65.331	77.315
ΔR^2	23.916	14.843	13.860	12.711	11.984
Internal consistency – Cronbach's Alpha	.93	.90	.85	.89	.93

As can be seen in Table 1, the results of the EFA analysis indicated that the five orthogonal factors of the TRPADQ measure explained a total variance of 77.31%, with each factor explaining at least 11.9% of the additional variance. The 21 items were divided into five factors as follows:

1. ***Impact on child's dialogue:*** e.g., "When children share personal experiences, they learn about each other" or "Teaching practices that promote dialogue between children develops their social skills".

2. ***Kindergarten teacher's ability to promote dialogue***: e.g., "I manage to conduct personal dialogue with each and every child in order to get to know what interests them" or "I manage to teach children to solve problems on their own through respectful dialogue with others".

3. ***Dialogue barriers***: e.g., "Frontal instruction by the preschool teacher is more effective than collaborative learning" or "A preschool teacher should make sure the classroom is quiet and minimize classroom chatter during a guided activity".

4. ***Fear of losing control***: "I find it difficult to conduct free open dialogue with children for fear of not knowing how to respond to behavioral problems" or "I am incapable of allowing children to converse amongst themselves during a lesson out of concern for not being able to regain classroom control".

5. ***Importance a teacher gives to use of dialogue as a teaching method***: e.g., "Promoting children's developmental needs by way of dialogue is at the heart of my teaching methods" or "Conducting dialogue with children about their families is important to me".

Moreover, it should be noted that all indicators in all five factors have factor loadings higher than .70, which is considered as very high loading for the factor (Akpa et al., 2015).

4.2. Correlation analysis

After conducting the EFA analyses, Pearson correlations were conducted to further establish structure validity of the TRPADQ. The correlation analyses results provided support for the structure validity of the TRPADQ. Table 2 presents the Pearson correlation coefficients of the five aspects of the teachers' role perception in conducting authentic dialogue.

Table 2. Pearson correlation coefficients of the five factors of the TRPADQ.

Five factors of the TRPADQ instrument	1	2	3	4	5
Impact on child's dialogue	1	.56***	.44***	.38***	.46***
Kindergarten teacher's ability to promote dialogue		1	.36***	.31***	.31***
Dialogue barriers			1	.46***	.33***
Fear of losing control				1	.40***
Importance a teacher gives to use of dialogue as a teaching method					1

**p < .001

As it can be seen in Table 2, the correlation analyses results provided support for the structure validity of the TRPADQ. All correlations positively correlated, and their coefficients ranged from .31 to .56.

4.3. Confirmatory Factor Analysis

CFA is one component of Structural Equation Modeling (SEM) that examines the hypothesized theoretical measurement model's fit to the data. CFA analysis using AMOS23 was conducted for the five factors of the TRPADQ measure in order to examine their structure validity within the specific sample. The CFA analysis was conducted despite the modest sample size in order to examine whether the percentage of the explained variance that was found in the EFA analysis (77.31%) is satisfactory and will yield an adequate fit to data indices.

In the current study, the five-factor models were examined utilizing several goodness of fit indices:

Comparative Fit Index (CFI), chi-square ($_\chi2$), $_\chi^2$/df ratio (CMIN), Incremental Fit Index (IFI) score and Root Mean Square of Error of Approximation (RMSEA). Hu and Bentler (1999) and Hair et al. (2006) defined a very good fit as a relatively small chi-square ratio $\chi^2/df \leq 3$, CFI and IFI $\geq$ .95 and RMSEA $\leq$ .06. An adequate fit to data is defined as CFI and IFI greater than .90 and RMSEA lower than .08.

The results of the CFA supported the five-factor model as an adequate fit index (CMIN = 2.199, CFI = .94, IFI = .94, RMSEA = .08). After adding correlations between measurement errors among five pairs of items, each belonging to the same factor, a very good fit index was found (CMIN = 1.80, CFI = .96, IFI = .96, RMSEA = .06) (see Figure 1).

4.4. Psychometric Analysis

In addition, the internal consistency of Cronbach's alpha for all items of the questionnaire was high α = .89. Finally, we calculated the Mean, SD, Range and the internal consistency of Cronbach's alpha for each of the five factors of the questionnaire (see Table 3).

Figure 1. CFA of the 21 items of the TRPADQ
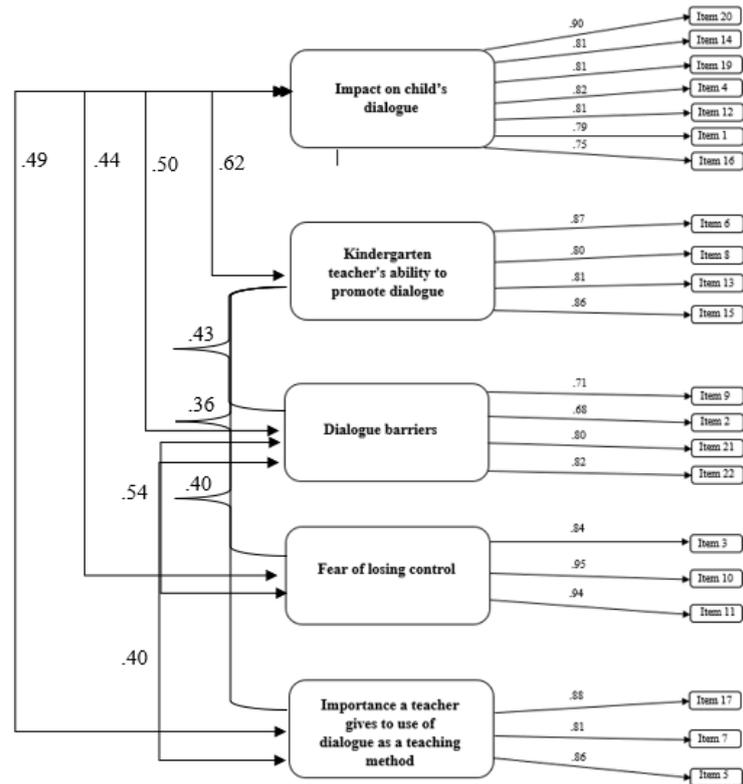
CMIN = 1.80, CFI = .96, IFI = .96, RMSEA = .06

Table 3. Mean, SD, Range and internal consistency of the TRPADQ ($N = 80$).

TRPADQ questionnaire scales	1.M	2. SD	3. Range	4. α
TRPADQ – Total score	5.3.21	6.0.50	7.1.76-4.00	8.89
Impact on child's dialogue	9.3.48	10.0.64	11.1.86-4.00	12.93
Kindergarten teacher's ability to promote dialogue	13.2.95	14.0.72	15.1.00-4.00	16.88
Dialogue barriers	17.2.85	18.0.88	19.1.00-4.00	20.82
Fear of losing control	21.3.42	22.0.85	23.1.00-4.00	24.75
Importance a teacher gives to use of dialogue as a teaching method	25.3.19	26.0.71	27.1.00-4.00	28.91

As it can be seen in Table 3, the internal consistency of Cronbach's alpha for each of the five factors of the questionnaire was considered high with α above 0.75, indicating that there is acceptable internal consistency, meaning that there is a large amount of agreement amongst the factors.

5. Discussion and conclusions

Teachers' role perception when entering a classroom can have an enormous effect on their interactions with their students. As Mainhard et al. (2018) found, the personal relationships between teachers and children lay the groundwork for their emotional and social development. Due to the fact that preschool teachers' interactions with children are based on providing authentic dialogue opportunities for them to grow both emotionally and cognitively, Smart and Marshall (2013) conceded that the type of questions teachers ask are based on the way they view classroom dialogue. In addition, Molinari and Mameli (2013) focused on the open space the teacher provides for dialogue, without setting time limits on who will talk, when they will talk and what they will talk about. Teachers' perceptions of their role in classroom dialogue, such as the types of questions they ask and the provision of open spaces, are just some of authentic

dialogue characteristics that must be examined in order for quality interactions to occur.

It was imperative to create a concise, simple, coherent questionnaire attended for early childhood teachers as they have very different roles than school teachers; their teaching is based on dialogue, games and small group activities. There was a need for a specialized questionnaire that is preschool oriented. This does not mean that it cannot be used for teachers as well, to investigate their role perception of authentic dialogue.

This paper attempted to describe the validation process a researcher must follow when creating a questionnaire. Taherdoost (2016) explains that the true definition for validity is to make sure that the data that was collected, can provide important information in the topic that is being researched. The process that a researcher undergoes when attempting to validate an original questionnaire created for the purpose of a study is a rigorous task. It must meet the goal that the researchers have set for themselves, no matter what the participants responses will be.

It is important to state the limitation of the validation process of this questionnaire. No external validation was conducted in order to examine the appropriateness and relevancy for other populations other than kindergarten teachers.

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Transcultural Comparison of the Professional Identity and Role Perceptions of Special Education Pre-Service Teachers in Israel

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Transcultural Comparison of the Professional Identity and Role Perceptions of Special Education Pre-Service Teachers in Israel

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Abstract	
Keywords: role perception; teaching self-efficacy; cultural diversity; special education; pre-service teachers.	This study examines the differences and similarities between Arab and Jewish pre-service teachers (PSTs) in Israel, in terms of their professional identity development, their perceptions of the teacher's role and their self-efficacy in teaching. The sample consisted of 168 PSTs from a College for education in Israel, 103 Jewish and 65 Arab. All the participants study for B.A. in Special Education. The research instruments were: Teacher Professional Identity Scale, Teacher's Self Efficacy Scale, Professional identity Scale for SE teachers. A significant main effect of year of study was found in the PSTs' professional identity development, indicating that the second-year PSTs scored higher than the first-year PSTs. Additional paired samples t-test examining the differences between the two time points in each cultural sector and each year of study indicated that both Jewish and Arab second year PSTs scored higher on the teaching self-efficacy at the end of the second academic year compared to the beginning of the same year.

Zusammenfasung	
Schlüsselworte: Rollenwahrnehmung; Selbstwirksamkeitswahrnehmung beim Unterrichten; kulturelle Diversität; Sonderpädagokik; Lehrer im Referendariat.	Diese Studie untersucht die Unterschiede und Gemeinsamkeiten zwischen arabischen und jüdischen Lehrern im Referendariat in Israel, hinsichtlich der Entwicklung ihrer beruflichen Identität, ihrer Auffassung der Lehrerrolle und ihrer Selbstwirksamkeitswahrnehmung beim Unterrichten. Die Auswahl bestand aus 168 Referendar/innen an einem pädagogischen College in Israel, 103 jüdische und 65 arabische Teilnehmer/innen. Alle Teilnehmer/innen absolvieren ein B.A. Studium der Sonderpädagogik. Die Forschungsinstrumente waren: Umfang der beruflichen Identität der Referendar/innen, Umfang der Selbstwirksamkeitswahrnehmung der Referendar/innen, Umfang der beruflichen Identität von Sonderpädagogen. Die Ergebnisse zeigten bei den untersuchten Variablen einen signifikanten Unterschied zwischen den jüdischen und arabischen im Referendariat befindlichen Teilnehmern. Zusätzliche t-Tests bei gepaarten Stichproben, die die Unterschiede zwischen den beiden Messzeiten in jedem kulturellen Sektor und jedem Studienjahr untersuchten, zeigten, dass sowohl jüdische als auch arabische im zweiten Studienjahr befindliche Referendar/innen am Ende des zweiten akademischen Jahres höhere Werte hinsichtlich ihrer Selbstwirksamkeitswahrnehmung beim Unterrichten erreichten als zu Beginn desselben Jahres.

1. Introduction

The formation of professional identity (PI) in pre-service teachers (PSTs) was addressed in numerous studied dating back to the mid 2000's. Schepens et al. (2009) examined the formation of PI in two aspects: (1) the demographic and personality traits contributing to the propensity for becoming a teacher; and, (2) the contribution of experience and education to becoming a teacher. While one of the key predictors for teachers' future degree of self-efficacy, their commitment to the teaching profession and their level of professional orientation, is the education they earned, the most important predictor for these factors in pre-service teachers appears be their preparation process towards becoming a teacher. Along this process, their

professional identity represents the result of a series of individual and collective interacting factors.

Tickle (1999) defines professional teaching identity (PTI) as a teacher's feeling of belonging to the profession and identifying with it. The PTI concept includes two components that are interconnected: (1) The teachers' prior experience and personal attributes as contributing to their self-perception as teachers, in their professional life; (2) The perception of teachers by their surrounding environment, including students, peers, students' parents, or the general public. Professional teaching identity can impact in various ways the teacher's behavior, work method, ways of thinking, beliefs, and statements (Altman & Katz,

2001), as well as work satisfaction (Kelchtermans, 2009), the sense of burnout and the failure to remain in the education system (Fisherman, 2016).

Živković (2018) examined the self-reported attitudes towards the main professional identity aspects in PSTs, indicating that the PSTs perceive the role of teaching more as a specific job rather than as a profession. They are rather goal-oriented towards their job as teachers, and perceive their practice as a part of their studies and not necessarily as a result of their PI development as teachers. One potential explanation offered by Živković (2018) is that beginner teachers might experience PI-related tensions, especially during the transition period from the status of PST to the one of being a teacher.

2. Theoretical foundation

The primary perception of the PSTs of their role during the first year of their studies at various education colleges in Israel was found to change during the various stages of their training process. The role perception (RP) is defined as the conscious part of the mind of the individual performing the role (Poper & Ronen, 1992). According to Manor-Binyamini (2001), RP includes two components: *seeing the role as a part of reality* and *seeing the role as an ideal* that needs to be achieved.

During their initial training stage, the PSTs who were undergoing training placed a larger emphasis on the emotional factor and as a result perceived the teaching profession as very dynamic. As their training progressed, the PSTs focused on other professional traits, somewhat disregarding the originally focused-on emotional factor (Caspi et al., 2019). This shift was interpreted to be in line with the theoretical and practical learning processes, and with the fact that the PST's perceptions vary depending on the stage of their professional and learning development.

Laron and Shkedi (2006) examined the professional-pedagogical development of PSTs in regard to their RP during the training program in one of Israel's education colleges, focusing on the first and second year practicums. During the course of the study, changes in RP were identified as part of the PSTs' professional development process. The participants were able to preserve their ideological passion and translate it into actions throughout their first year of practicum in informal education. The change in their perceptions occurred in the beginning of the second year, when they began teaching regular (formal) lessons in schools. According to the researchers, the PSTs were unable to preserve their ideological vision in the formal school framework due to the difficulties they faced while teaching and steering the classroom and in light of the demanding standards by the school systems. A proposed way to preserve the sense of vision and mission of the PSTs lies in finding a new practicum approach that allows the PSTs to face the reality in schools, while simultaneously encouraging them to maintain their early on-set ideological motivation and vision throughout their professional development (Laron & Shkedi, 2006).

Cultural background is crucial for the formation of pre-service teachers' professional identity. This aspect is often investigated in multicultural societies, such as Israel. Israel is considered a heterogeneous, multi-ethnic and multi-cultural society. The different groups that comprise the society differ from each other in terms of their nationalities, religious affiliations, ethnicity, class, and political orientation (Aden et al., 2001; Al-Haj, 2012). A majority (~74%) of the citizens in Israel are Jewish. There are also minorities, the largest of which is the Arab minority (~21.1%), which includes Muslims and Christians (Central Bureau of Statistics, 2022). Israel was established as the Nation-State of the Jewish people (Boimel, Ze'evi, & Totry, 2009; Haider, 2005). From the date of its establishment, the citizens of Israel were divided into two main populations: "Jewish" and "non-Jewish". The latter category is mostly comprised of the Israeli Arab population (Haider, 2005). Due to the Jewish-Hebrew-Zionistic nature of Israel and in light of the country's economic and political structure, Arab and Jewish persons differ in several aspects of their daily life. As such, there are differences in culture, language, religion, nationality, geographic location, ideology, customs, education and employment systems (Abu-Baker, 2012; Boimel et al., 2009).

The state of Israel acknowledges the Arab-Israelis as a religious, cultural and lingual minority, but not as a national minority. As a result, Arabs receive the status of an ethnic minority without receiving national rights. Nevertheless, Arabs function successfully as a cultural minority, inter alia, due to the following factors: they may operate a separate education system funded by the government and are free to cultivate their culture due to their geographic-cultural concentration (Ali & Daas, 2018).

The Israeli education system includes universities, research institutions and a wide range of colleges that award an academic degree, located throughout the country (Ayalon & Yogev, 2005; Shochat & Zilkha, 2007). Higher education is perceived as an important and exclusive means that can promote the Arab social mobility (Haj-Yahya & Arar, 2009) and improve their status and financial standing (Ali & Daas, 2018). Over the years, an increase in the attendance rate of Arabs in higher education institutions has been observed, in addition to an improvement in the status of Arab women and an overall increase in the quality of life (Hadad Haj-Yahya, 2016). According to data of the Council for Higher Education in Israel (2020), over the last decade, the number of Arab students into higher education systems has significantly increased and even doubled in size. Despite the aforementioned growth rate in the integration of Arab students in institutions for higher education, the attendance rate of Arab males in higher education institutions has barely increased over the last decade (Haj-Yahya et al., 2021). To date, very few studies have been conducted on the integration of Arabs in Jewish colleges and the difficulties they encounter during their years of education.

Another important variable that is associated with the formation of professional identity in students interested in becoming teachers is teaching self-efficacy (TSE). As per to Bandura (1997), self-efficacy is a person's belief in one's ability and willingness to experiment with various tasks. Teachers' self-efficacy can affect their behavior and the way that they cope with various tasks, the effort they will put in them, their feeling in relation to the, and their thoughts regarding their performance. Kass and Friedman (2005) explored the sources that structure the TSE from their standpoint and in a holistic view. The study found that the cognitive and emotional aspects of the teachers' early personal life, originating back to their parents' and their immediate family, has a stronger impact on their professional sense of self-efficacy, compared to the impact of their actual professional experiences, including verbal encouragement by their professional surrounding, their observation of the behaviors of colleagues and their personal interpretation of situations.

Mahajna (2014) examined the relationship between the PSTs' environmental factors and their self-efficacy in teaching, through motivational and behavioral factors. In the study participated young students from the Arab sector, who attended various internship programs in a teacher training college in Israel. The findings indicated that the environmental factors (the perceptions of society towards the teaching profession and the quality of the relationship with colleagues), the motivational factors (personal feelings towards the profession and reflective thinking) and the expressive teaching skills factor, contributed to predicting TSE. According to Mahajna (2014), training programs for teachers are meant to explicitly emphasize contents with the goal of cultivating the professional commitment to the profession and strengthening the professional identity, while cultivating the teacher's reflective thinking ability, which likely has a positive effect on self-efficacy. Since TSE can be affected by various factors and is primarily evolving during the training years, such programs are meant to provide opportunities and experiences that may promote the development of self-efficacy among PSTs.

Various studies have examined the contribution of the practicum program to pre-service teachers and compared between different available programs. There are only few studies examining students from the Arab society among the special education students in Israel (Anderson & Stillman, 2013; Maskit & Dorfberger, 2018; McElwee, Regan, Baker, & Weiss, 2018). Furthermore, there is a lack of current comparative studies between Jewish and Arab pre-service teachers in the special education undergraduate program regarding the impact of the practicum program.

This study aims to examine the differences and similarities between Arab and Jewish pre-service teachers in Israel, in terms of their professional identity, their perceptions of the role of a Special Education teacher and their teaching self-efficacy. The pre-service teachers participating in the study come from the two main cultures and ethnicities in the Israeli society: Jewish and Arab. The participants were included in the following two categories of groups: PSTs who participated in the practicum training program in the special education course (second year in program, also called the experimental group), and PSTs who have not yet undergone the practicum program (first year in program, also called the control group).

The research questions that guided the study are the following:

1. Are there differences between the two time points (beginning of semester A, end of semester B),

the two study groups (first year, second year) and the two sectors (Jewish, Arab) in the following variables: pre-service teachers' professional identity development, their perceptions of the role of special education teachers and their teaching self-efficacy (TSE)?

2. Are there differences among PSTs who will be assigned to the experimental group between the two time points (beginning of semester A, end of semester B), and the two sectors (Jewish, Arab) in the target variables?

3. Will the pre-service teachers' demographic characteristics contribute significantly to the explained variance (EPV) of the target variables in each time point?

Research Hypotheses

The hypotheses related to research questions are:

1. At the end of the practicum program, improvements will be found in both cultural sectors in the pre-service teachers' professional identity development, their perceptions of the role of a special education teacher and their TSE.

2. In light of the lack of current comparative studies between Jewish and Arab pre-service teachers

in the special education undergraduate program regarding the impact of the practicum program on the perceptions and TSE, no hypothesis has been formulated as to the differences between the sectors, this aspect having an exploratory nature.

A contribution will be found of the PSTs' demographic characteristics to the explained variance (EPV) of their PI development, their perceptions of the role of special education teachers

3. Research methodology

3.1. Research participants

A number of 168 students (7 males and 161 females) who are studying for B.A. in Special Education at a College of Education in the Northern part of Israel had participated in this research. The students' ages ranged between 20 and 53 ($M = 27.80$, $SD = 7.83$). 103 Jewish PSTs (6 males and 97 females) and 65 Arab students (1 male and 64 females) were samples from the first and the second study years at the college (67 first year PSTs, 101 second year PSTs). Chi-square analysis indicated that the participants from the two sectors did not differ in study year. Table 1 presents the background characteristics of the PSTs who participated in the current study by cultural sector.

Table 1. Frequency (%) of the demographic characteristics of the participants in the two groups.

Background characteristics	Values	Jewish ($n = 103$)	Arab ($n = 65$)	χ^2	p
Gender	Male	6 (5.8%)	1 (1.5%)	1.83	.176
	Female	97 (94.2%)	64 (98.5%)		
Year of study	First year	45 (43.7%)	22 (33.8%)	1.61	.204
	Second year	58 (56.3%)	43 (66.2%)		
Study model	Concurrent	88 (85.4%)	36 (55.4%)	18.62***	.001
	Consecutive	15 (14.6%)	29 (44.6%)		
Marital status	Single	68 (66.0%)	46 (70.8%)	.41	.521
	Married	35 (34.0%)	19 (29.2%)		
Religious[1]	Orthodox	3 (2.9%)	0 (0.0%)	2768.50*	.039
	Religious	7 (6.8%)	11 (16.9%)		
	Traditional	42 (40.8%)	32 (49.2%)		
	Secular	51 (49.5%)	22 (33.8%)		
Living	In the center of Israel	8 (7.8%)	1 (1.5%)	3.05	.081
	In the north of Israel	95 (92.2%)	64 (98.5%)		
Residential area	Mixed city or locality	56 (54.4%)	49 (75.4%)	7.51**	.006
	A city or settlement only of Jews or Arabs	47 (45.6%)	16 (24.6%)		
Additional specialization	No	45 (43.7%)	38 (58.5%)	3.48	.062
	Yes	58 (56.3%)	27 (41.5%)		
Previous course in special education	No	96 (93.2%)	52 (80.0%)	6.62**	.010
	Yes	7 (6.8%)	13 (20.0%)		
Previous experience with special education PSTs	No	61 (59.2%)	39 (60.9%)	.05	.826
	Yes	42 (40.8%)	25 (39.1%)		

As indicated in Table 1, the two cultural sectors differed significantly in their study model[1]. Although the percentage of PSTs of both sectors in the concurrent study model is higher than the percentage of PSTs in the consecutive study model, the percentage of Arabs in the consecutive study model is higher than the percentage of Jews. The two sectors also differ significantly in the residential area. The percentage of Arabs who reside in a mixed city[2] or locality is higher than the percentage of Jews who reside in the same areas. While a higher percentage of Jews reported of having an additional specialization except for special education (almost reaching a significance level $p = .062$), a higher percentage of Arabs reported of having previously taken courses in SE aside from their college studies. Finally, the results of the Mann-Whitney analysis indicated that the religiosity level was significantly higher among the Arab students compared to the Jewish ones (less percentage of Arabs reported of being secular).

3.2. Data collection

The research was conducted in a college of education in the northern region of Israel at 2022/2023 academic year. The questionnaires were administered at two time points- beginning of semester A (Nov. 2022) and end of semester B (June 2023). The researcher administered the questionnaires to all the PSTs who participated in the study during classes at the college. In order to conduct this study according to the required procedures, the proposal was approved by the research ethics board in the college where the study was conducted. Additionally, the researcher gained consent from each of the PSTs, to collect data and to analyse their questionnaires. All participants voluntarily took part in the research by consciously signing the form of consent. Answering the questionnaire was anonymous. They were assured that the researcher is committed to absolute confidentiality, and the entire material will remain confidential, by using it for research goals only. The researcher administered the questionnaires to all the PSTs included in the study. In order to reduce the potential biases in data interpretation, an expert who is unfamiliar with the participants conducted the statistical analyses of the questionnaires.

3.3. Instruments

In this study, three tools were used, which are valid and reliable questionnaires that exist in the literature and some of them were already available in Hebrew language, being previously used in other research studies. The questionnaires were administered at two time points: at the beginning of semester A and at the end of semester B.

3.3.1. The Scale of Teachers' Professional Identity (Fisherman & Weiss, 2011)

This scale is based on previous scales developed by several researchers, including: Kramer and Hoffman (1981), Galante (1985), Fisherman (2004). The Teacher's Professional Identity scale is comprised of 27 items that are divided into 4 factors. All of the 27 items in the Teacher Professional Identity Scale were translated into Hebrew by Luzzato and Rusu (2019). The first factor measures the level of *career choice confidence* (*"I am sure that my choice in the teaching profession was right"*). Cronbach's alpha formula in the current study indicated a reliability of $\alpha = .92$ for the first factor. The second factor measures the level of *professional efficacy*. This measure evaluates the teachers' self-perception regarding their degree of knowledge possession of skills and tools for succeeding as a teacher. Cronbach's alpha formula in the current study indicated a reliability of $\alpha = .78$ for the second factor. The third factor measures the level of *sense of mission*. This measure examines the teacher's degree of perception of the teaching profession as a mission. Cronbach's alpha formula in the current study indicated a reliability of $\alpha = .70$ for the current study. The fourth factor measures the level of *reputation*. This measure expresses the teachers' perception towards the profession (*"I feel respect for teachers"*). Cronbach's alpha formula in the current study indicated a reliability of $\alpha = .43$ for this factor. Due to low reliability level of this factor, we did not conduct any statistical analysis regarding it. In the current study, the internal consistency level of all

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[1] There are two main models that coexist for teacher training programs in Israel: (1) the **concurrent** model, designed for those who turn to teaching as their first career; (2) the **consecutive** model, designed for graduates who have completed the disciplinary stage during early academic studies towards a bachelor's degree and sometimes a master's degree (Zuzovsky, & Donitsa-Schmidt, 2017).

[2] The Arab society is comprised of an urban population that resides both and Arab cities and in mixed Arab-Jewish cities as well as of population that lives in rural Arab villages (Shaviv, Binstein, Stone, & Fudem, 2013).

items in the questionnaires was extremely high, α = .93.

3.3.2. *Professional Identity Scale for Special Education Teachers* (Hao, Niu, Li, Yue & Liu 2014)

The original version of the scale measured how nurses perceive their profession. This scale was adapted for being used among special education teachers to measure how they perceive the teaching profession. The scale contains 17 items that were divided into 5 factors. The first factor measures the level of *professional self-image* (*"I like being a special education teacher"* instead of *"I like being a nurse"*). According to Chronbach's alpha formula, the reliability of this factor was α = .87. The second factor measures the level of *benefit of stability and fear of change* (*"Change may inflict emotional damage"*). According to Chronbach's alpha formula, the reliability of this factor was α = .54. The third factor measures the level of *comparisons and self-reflection* (*"I think it is important to be aware of conditions in other careers, in order to strengthen my professional belief in the teaching profession"*). According to Chronbach's alpha formula, the reliability of this factor was α = .59. The fourth factor measures the level of *independence of career choice* and contained 2 items. The reliability of that factor, according to Pearson correlation, was $r = .14$. The fifth factor measures the level of *social modelling* (*"I like to knowing of more development stories of some successful people in the field of special education"*) and contained 2 items. The reliability of that factor, according to Pearson correlation, was $r = .66$. Since the reliability levels of three out of five factors were less than 0.60, statistical analyses were conducted only on the total measure of this questionnaire. In the current study, the internal consistency level of all items in the questionnaires was high, α = .87.

3.3.3. *Teacher's Self Efficacy Scale* (Tschannen-Moran et al., 2001)

This scale measures the level of ability and competence in teaching. The scale contains 24 items that are divided into 3 factors. The first factor measures the level of *efficacy for student engagement* (*"I can get students to believe they can do well in their schoolwork"*). The reliability of that factor, according to Cronbach's alpha formula in the current study, was α = .88. The second factor measures the level of *efficacy for classroom management*. The reliability of that factor (Cronbach's alpha) was α = .88. The third

factor measures the level of *efficacy for instructional strategies* (*"I can use a variety of assessment strategies"*). The reliability of that factor (Cronbach's alpha) was α = .92. In the current study, the internal consistency level of all items in the questionnaires was extremely high, α = .96.

4. Findings

Prior to examining the study questions and hypotheses, we conducted Shapiro-Wilk tests in order to evaluate the degree of normal distribution of the dependent variables for each sector (Jewish, Arab) and for each year of study (First and Second year). It was found that the distribution of the dependent variables deviated significantly from normal distribution, indicating the need to conduct both non-parametric and parametric analyses. Wilcoxon tests were conducted for purpose of evaluating the differences between the two time points (beginning of an academic year, end of an academic year) in each sector and in each year of study. Mann-Whitney tests were conducted to examine the differences between the two years of study in the dependent variables within and between the cultural in each year of study. This section presents the findings of the parametric analysis as the findings of the non-parametric analyses indicated the same level of significance as the parametric analyses.

For the purpose of examining the differences in the total score on each of the three questionnaires by sector and year of study at the beginning or the academic year (T1), three analyses of two-way ANOVA were conducted. For the purpose of examining the differences in the sub scales of the questionnaires by sector and year of study at T1, two-way MANOVA analyses were conducted (Table 2).

Significant differences were found between Jewish and Arab PSTs in the subscale "profession efficacy" in the PSTs' professional identity development questionnaire, in the total score of the PSTs' perceptions of the role of SE teachers' questionnaire, as well as in the three subscales of the self-efficacy in teaching questionnaire (Table 2). In all these measures, the Arab PSTs scored higher than the Jewish PSTs. In addition, significant differences were found between the first-year and the second-year PSTs in the subscale "career choice confidence" regarding the PSTs' professional identity development questionnaire and in the total scale as well as the three subscales of the self-efficacy in teaching questionnaire. In all these measures, the second-year PSTs scored higher than the first-year PSTs (Table 2).

Table 2. Mean, SD and F-values of the scores on the three questionnaires at T1 by cultural sector and by year of study.

Scales	Year of study	Jewish N	M	SD	Arab n	M	SD	Total n	M	SD	F-values (η_p^2) Sector	Year of study	Interaction
Career choice confidence	First	45	3.37	0.47	22	3.37	0.44	67	3.37	0.46	3.60 (.02)	4.52* (.03)	3.69 (.02)
	Second	58	3.04	0.52	43	3.35	0.47	101	3.18	0.52			
	Total	103	3.19	0.52	65	3.36	0.46	168	3.26	0.50			
Profession efficacy	First	45	3.43	0.33	22	3.49	0.42	67	3.45	0.36	5.08* (.03)	1.31 (.01)	1.78 (.01)
	Second	58	3.28	0.35	43	3.50	0.39	101	3.37	0.38			
	Total	103	3.35	0.35	65	3.49	0.40	168	3.40	0.37			
Sense of mission	First	45	3.33	0.49	22	3.31	0.57	67	3.32	0.51	.37 (.00)	1.54 (.01)	.73 (.00)
	Second	58	3.15	0.52	43	3.27	0.55	101	3.20	0.54			
	Total	103	3.23	0.51	65	3.28	0.55	168	3.25	0.53			
Perceptions regarding personal and professional identity development (Total)	First	45	3.37	0.36	22	3.39	0.44	67	3.38	0.39	3.76 (.02)	3.40 (.02)	2.37 (.01)
	Second	58	3.14	0.41	43	3.37	0.43	101	3.24	0.43			
	Total	103	3.24	0.40	65	3.38	0.43	168	3.29	0.42			
Students' perceptions regarding the role of special education teachers (Total)	First	45	4.01	0.52	22	4.26	0.56	67	4.09	0.54	13.12*** (.07)	1.20 (.01)	.29 (.00)
	Second	58	3.87	0.47	43	4.22	0.49	101	4.02	0.51			
	Total	103	3.93	0.50	65	4.23	0.51	168	4.05	0.52			
Efficacy for student engagement	First	45	4.28	0.44	22	4.49	0.53	67	4.35	0.48	9.69** (.06)	7.91** (.05)	.33 (.00)
	Second	58	4.00	0.49	43	4.31	0.54	101	4.13	0.53			
	Total	103	4.12	0.49	65	4.37	0.54	168	4.22	0.52			
Efficacy for classroom management	First	45	4.18	0.45	22	4.53	0.44	67	4.29	0.47	11.41*** (.07)	9.40** (.05)	.91 (.01)
	Second	58	4.00	0.47	43	4.20	0.61	101	4.09	0.54			
	Total	103	4.08	0.47	65	4.32	0.57	168	4.17	0.52			
Efficacy for instructional strategies	First	45	4.10	0.60	22	4.53	0.45	67	4.24	0.59	16.99*** (.09)	4.24* (.03)	.46 (.00)
	Second	58	3.97	0.52	43	4.28	0.58	101	4.11	0.57			
	Total	103	4.03	0.56	65	4.37	0.55	168	4.16	0.58			
Self-efficacy in teaching (Total)	First	45	4.19	0.56	22	4.52	0.47	67	4.29	0.48	14.43*** (.08)	7.86** (.05)	.15 (.00)
	Second	58	3.99	0.45	43	4.26	0.56	101	4.11	0.51			
	Total	103	4.08	0.46	65	4.35	0.54	168	4.18	0.51			

*$p < .05$, **$p < .01$, ***$p < .001$

Due to the significant differences according to sector and year of study at T1, in order to examine the first research question, two-way ANCOVA analyses were further conducted. The independent variables were the cultural sector and the year of study. The dependent variables were the PSTs' scores on the three questionnaires at T2 (at the end of the academic year). The covariate variables were the PSTs' scores on the three questionnaires at T1 (at the beginning of the academic year). Table 3 presents the mean, SD and F-values of ANCOVA analyses of the scores of the PSTs' professional identity development questionnaire and their perceptions regarding the role of special education teachers at T2 by sector and year of study and Table 4 presents the means, SD and F-values of ANCOVA analyses of the scores of the PSTs' self-efficacy in teaching questionnaire at T2 by sector and year of study.

Table 3. Mean, SD and F-values of ANCOVA analyses of the variables professional identity and the perceptions of the role of SE teachers at T2 by cultural sector and by year of study.

Scales	Year of study	Sector	n	T1 M	SD	T2 M	SD	M.E	F-values Sector	Year of study	Interaction	Paired comparison t	p	Cohens' d
Career choice confidence	First	Jewish	45	3.37	0.47	3.16	0.55	3.08	6.07* (.04)	.55 (.00)	1.35 (.01)	3.03**	.004	0.45
		Arab	22	3.37	0.44	3.40	0.50	3.32				.33	.743	0.07
	Second	Jewish	58	3.05	0.52	3.06	0.53	3.20				.13	.898	0.02
		Arab	43	3.35	0.47	3.36	0.50	3.29				.13	.897	0.02
Profession efficacy	First	Jewish	45	3.43	0.33	3.29	0.42	3.27	4.37* (.03)	11.35*** (.07)	1.33 (.01)	2.75**	.009	0.41
		Arab	22	3.49	0.42	3.49	0.43	3.43				.00	1.00	0.00
	Second	Jewish	58	3.28	0.35	3.40	0.37	3.49				2.78**	.007	0.36
		Arab	43	3.50	0.39	3.60	0.39	3.54				2.53*	.015	0.39
Sense of mission	First	Jewish	45	3.33	0.49	3.31	0.48	3.26	.51 (.00)	.07 (.00)	.20 (.00)	.24	.814	0.04
		Arab	22	3.31	0.57	3.37	0.53	3.34				.83	.418	0.18
	Second	Jewish	58	3.15	0.52	3.22	0.49	3.28				1.27	.209	0.17
		Arab	43	3.27	0.55	3.31	0.54	3.29				.45	.658	0.07
Professional identity development (Total)	First	Jewish	45	3.37	0.36	3.22	0.42	3.17	5.24* (.03)	2.38 (.01)	1.89 (.01)	2.86**	.006	0.43
		Arab	22	3.39	0.44	3.42	0.45	3.45				.46	.651	0.10
	Second	Jewish	58	3.14	0.41	3.19	0.42	3.31				1.21	.232	0.16
		Arab	43	3.37	0.43	3.42	0.43	3.35				1.17	.249	0.18
Students' perceptions regarding the role of SE teachers (Total)	First	Jewish	45	4.01	0.52	4.05	0.61	4.07	.89 (.01)	.02 (.00)	.02 (.00)	.44	.662	0.07
		Arab	22	4.26	0.56	4.26	0.45	4.13				.04	.969	0.01
	Second	Jewish	58	3.87	0.47	3.97	0.53	4.07				1.49	.143	0.20
		Arab	43	4.22	0.49	4.25	0.50	4.16				.65	.521	0.10

*$p < .05$, **$p < .01$, ***$p < .001$; M.E = Mean Estimated, controlling over the T1 measure.

Table 4. Mean, SD and F-values of ANCOVA analyses of the scores of the students' self-efficacy in teaching at T2 by sector and year of study.

Scales	Year of study	Sector	n	T1 M	T1 SD	T2 M	T2 SD	T2 M.E	Sector	Year of study	Interaction	t	p	Cohens' d
Efficacy for student engagement	First	Jewish	45	4.28	0.44	4.16	0.52	4.12				1.53	.132	0.23
		Arab	22	4.49	0.53	4.49	0.53	4.34	5.10* (.03)	5.42* (.03)	1.52 (.01)	.00	1.00	0.00
	Second	Jewish	58	4.00	0.49	4.23	0.40	4.34				4.12***	.001	0.54
		Arab	43	4.31	0.54	4.46	0.44	4.41				2.78**	.008	0.42
Efficacy for classroom management	First	Jewish	45	4.18	0.45	4.07	0.58	4.07				1.49	.143	0.22
		Arab	22	4.53	0.44	4.52	0.49	4.28	4.42* (.03)	4.53* (.03)	1.15 (.01)	.20	.842	0.04
	Second	Jewish	58	4.00	0.47	4.17	0.47	4.28				2.83**	.006	0.37
		Arab	43	4.20	0.61	4.37	0.53	4.35				2.64*	.012	0.40
Efficacy for instructional strategies	First	Jewish	45	4.10	0.60	4.12	0.59	4.15				.27	.789	0.04
		Arab	22	4.53	0.45	4.55	0.46	4.38	6.33* (.04)	4.02* (.02)	.62 (.00)	.30	.765	0.06
	Second	Jewish	58	3.97	0.52	4.25	0.40	4.34				4.69***	.001	0.62
		Arab	43	4.28	0.58	4.52	0.43	4.46				2.80**	.008	0.43
Self-efficacy in teaching (Total)	First	Jewish	45	4.19	0.46	4.12	0.54	4.11				.91	.368	0.14
		Arab	22	4.52	0.47	4.52	0.48	4.32	4.97* (.03)	6.01* (.04)	1.23 (.01)	.00	1.00	0.00
	Second	Jewish	58	3.99	0.45	4.22	0.39	4.33				4.59***	.001	0.60
		Arab	43	4.26	0.56	4.45	0.45	4.40				2.99**	.005	0.46

$*p < .05$, $**p < .01$, $***p < .001$; M.E = Mean Estimated, controlling over the T1 measure.

As it can be seen in Table 3, significant main effects of the cultural sector were found for the total score as well as for the subscales "career choice confidence" and "profession efficacy" in the PSTs' PI development questionnaire, indicating that the Arab PSTs scored higher than the Jewish PSTs. In addition, significant main effect of the year of study was found for the subscale "profession efficacy", indicating that the second-year PSTs scored higher than the first-year PSTs. The paired samples t-test examining the differences between the two time points in each cultural sector and each year of study indicated that both Jewish and Arab second year PSTs scored higher on the "profession efficacy" subscale at the end of the second academic year, compared to the beginning of the year. The Jewish first year PSTs scored lower on the total score, as well as on the subscales "career choice confidence" and "profession efficacy" at the end of the first academic year compared to the beginning of the same year. It should be noted that no main effects, nor interaction, were found for the PSTs' perceptions of the role of SE teachers.

As presented in Table 4, the main effects of sector and year of study were significant on the total scale as well as on the three subscales of TSE questionnaire, indicating that the Arab PSTs scored higher than the Jewish PSTs and that the second-year PSTs scored higher than the first-year PSTs. Additional paired samples t-test examining the differences between the two time points in each sector and each year of study

indicated that both Jewish and Arab second year PSTs scored higher on the total scale and on each subscale of TSE at the end of the second academic year compared to the beginning of the same year.

In order to examine the contribution of the students' background characteristics to the explained variance (EPV) of their improvement rate on their PI development, professional self-identity in SE and self-efficacy, multiple regression analyses were conducted. The students' background characteristics were entered into the regression model in a stepwise manner. In this manner, only the variables that contribute significantly to the EPV were entered into the regression model. Table 5 presents the results of the multiple regression analyses.

As Table 5 shows, the year of study contributed significantly to the EPV of the PSTs' PI development, professional self-identity in SE and self-efficacy, respectively. Furthermore, the PSTs' year of study contributed significantly to the EPV of the subscale "career choice confidence" and "professional efficacy", as well as for the three subscales of the teaching self-efficacy questionnaire. The positive β coefficients indicated that the improvement rate in these measures was significantly higher among second year PSTs compared to first year PSTs. The PSTs' sector and the study model contributed significantly to the EPV of the total scale of the PI development questionnaire as well as to the subscale of career choice confidence.

Table 5. Results of multiple regression analyses of the improvement rate on the target variables by their demographic characteristics.

	Step	Explanatory variables	B	SE.B	β	R^2	ΔR^2
Professional identity development (Total)	1	Year of study[1]	.21	.05	.33***	.042**	---
	2	Study model[2]	-.21	.06	-.29***	.084***	.041**
	3	Sector[3]	.11	.05	.17*	.109***	.025*
Career choice confidence	1	Year of study[1]	.23	.07	.26**	.026*	---
	2	Study model[2]	-.23	.09	-.24**	.050*	.024*
	3	Sector[3]	.15	.07	.17*	.076**	.026*
Professional efficacy	1	Year of study[1]	.22	.05	.33***	.069***	---
	2	Previous experience with SE students[4]	-.11	.05	-.17*	.125***	.028*
Sense of mission	1	Study model[2]	-.28	.09	-.27**	.036*	---
	2	Previous course in SE[5]	.25	.12	.18*	.061**	.025*
Students' perceptions regarding the role of SE teachers (Total)	1	Gender[6]	.44	.19	.18*	.035*	---
	2	Age	-.01	.01	-.15*	.058**	.023*
Self-efficacy in teaching (Total)	1	Year of study[1]	.25	.06	.29***	.086***	---
Efficacy for student engagement	1	Year of study[1]	.28	.07	.30***	.090***	---
Efficacy for classroom management	1	Year of study[1]	.24	.07	.27***	.072***	---
Efficacy for instructional strategies	1	Year of study[1]	.24	.08	.23***	.053**	---

*$p < .05$, **$p < .01$, ***$p < .001$; [1]Year of study: 0 = First, 1 = Second; [2]Study model: 0 = Concurrent, 1 = Consecutive; [3]Sector: 0 = Jewish, 1 = Arab; [4]Previous experience with special education students: 0 = No, 1 = Yes; [5]Previous course in special education: 0 = No, 1 = Yes; [6]Gender: 0 = Male, 1 = Female.

The positive β coefficients regarding the PSTs' sector indicated that the improvement rate in these measures was significantly higher among Arab PSTs compared to Jewish PSTs. The negative β coefficients regarding the study model indicated that the improvement rate in these measures was significantly higher among PSTs who learned in the concurrent model. Whether the PSTs had previous experience with special education contributed significantly to the improvement rate of their professional efficacy and whether they had previously taken a course in special education contributed significantly to the improvement rate of their sense of mission. Finally, the PSTs' gender and age contributed significantly to the EPV of their perceptions of the role of special education teachers. Female PSTs improved their perceptions of the role of special education more than males. The negative β coefficients regarding the PSTs' age indicated that PSTs of a lower age tended to better improve their perceptions of the role of special education.

5. Discussions and conclusions

The current study investigated the differences and similarities between Arab and Jewish pre-service teachers in Israel, with regard to their professional identity, their perceptions of the Special Education teacher's role and their self-efficacy in teaching, as a result of their participation in a practicum program. In line with our hypotheses, Jewish and Arab second year PSTs scored higher on the total scale of their self-efficacy in teaching at the end of the second academic year compared to the beginning of that year.

Similar to previous studies (Caspi et al., 2019; Laron & Shkedi, 2006), the findings of this study indicate significant differences between the first-year and the second-year PSTs in their professional identity development and self-efficacy in teaching. The second-year PSTs, i.e. those who participated in the practicum program, exhibited greater improvement in their professional identity development, their perceptions of the role of special education teachers and in their self-efficacy in teaching, compared to the first-year PSTs, i.e. those who have not yet undergone the practicum program, in the two cultural sectors. In addition, according to our hypotheses, both Jewish and Arab second year PSTs scored higher on the "profession efficacy" at the end of the second academic year, compared to the beginning of the year. The first year Jewish PSTs scored lower on the total score of PI, as well as on the subscales "career choice confidence" and "profession efficacy" and on their TSE at the end of the first academic year compared to the beginning of that year.

Regarding differences between Jewish and Arabs PSTs, in light of the lack of previous comparative studies between Jewish and Arab pre-service teachers, no direct hypothesis was formulated. According to our findings, there are major differences between Jewish and Arab PSTs in their professional identity development, their perceptions of the role of SE teachers', as well as in their teaching self-efficacy. In all these measures, the Arab PSTs exhibited greater improvement than the Jewish PSTs. Significant main effects of the cultural sector were found for the total score as well as for the "career choice confidence" and "profession efficacy" in the PSTs' professional identity development, indicating that the Arab PSTs exhibited greater improvement than the Jewish PSTs. Similar transcultural differences were found in previous studies (Aden et al., 2001; Al-Haj, 2012).

The main effects of sector and year of study were significant on the total scale as well as on the self-efficacy in teaching, indicating that the Arab PSTs scored higher than the Jewish PSTs and that the second-year PSTs scored higher than the first-year PSTs. In addition, and similar to our hypotheses, Jewish and Arab second year PSTs scored higher on PI and on their self-efficacy in teaching at the end of the second academic year compared to the beginning of that year.

In examining the contribution of the PSTs' background characteristics to the explained variance of their improvement rate on the PST`s professional identity development, professional self-identity in SE and self-efficacy in teaching, it was found that the year of study contributed significantly to the EPV of the PSTs' professional identity development, professional self-identity in SE and self-efficacy, respectively. Furthermore, the PSTs' year of study contributed significantly to the EPV of the "career choice confidence" and "professional efficacy". The improvement rate in these measures was significantly higher among second year PSTs compared to first year PSTs. In addition, The PSTs' sector and the study model contributed significantly to the EPV of the total scale of the professional identity development as well as to the "career choice confidence". The analysis in relation to the cultural sector indicated that the improvement rate in these measures was significantly higher among Arab PSTs compared to Jewish PSTs. Also, the study model indicated that the improvement rate in these measures was significantly higher among PSTs who learned in the concurrent model.

In conclusion, the findings show that the main effects of sector and year of study were significant in the improvement of the development of the PST`s in the two sectors. Thus, it can be seen that:

(1) Following the practicum program, there was an increase among all the PSTs, both Jewish and Arabs, in their professional identity, their perceptions of the role of a Special Education teacher and their self-efficacy in teaching. This increase was significant for profession efficacy (one subscale of PI), for Self-Efficacy in teaching and for its all subscales: efficacy relating to the level of the student's engagement; efficacy relating to the level of the student's ability to manage a classroom, and efficacy relating to the student's level of possession of instructional strategies.

(2) During the first year and at the end of the second year, the Jewish PSTs had lower scores than the Arabs PSTs in PI, in their perceptions of the role of SE teachers and in their TSE. Social desirability could be a possible explanation for this, i.e. the Arab PSTs tried to present themselves in a more positive way in accordance to what they considered appropriate and desirable.

(3) The PSTs who learned in the concurrent model received higher scores than the PSTs who learned in the consecutive model. Further studies are needed to explore the differences between the two models.

To our knowledge, this is the first study that perform comparison between the two cultural sectors, Arab and Jewish in relation to the participation of Israeli pre-service teachers in a practicum program, in terms of their professional identity, their perceptions of the role of a Special Education teacher and their self-efficacy in teaching.

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Curricular Analysis of the Pedagogical Subjects Studied in the Pedagogical Module

Adela-Simina Câmpan, Mușata Bocoș

Curricular Analysis of the Pedagogical Subjects Studied in the Pedagogical Module

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Abstract	
Keywords: methodology; psycho-pedagogical training programs; teaching profession.	The Methodology for the organization and functioning of the Psycho-pedagogical Training Programs in USAMV Cluj-Napoca is the document which, based on official documents issued by the Ministry of Education, provides the framework for the organization of the psycho-pedagogical training programs. More precisely, it aims to certify the competences for the teaching profession through the two levels: Level I (initial) and Level II (deepening). The methodology presents both the curriculum of these psycho-pedagogical training programmes and their formal curricular documents. At both Level I and Level II, the teaching subjects are divided into two categories: basic psycho-pedagogical training and specialist teaching and practical training. Annex 2 of this methodology presents the timetable available for the specialist content and the assessment method.

Zusammenfasung	
Schlüsselworte: methodik; psycho-pädagogischen ausbildungsprogramme; lehrerberuf.	Die Methodik für die Organisation und das Funktionieren der psycho-pädagogischen Ausbildungsprogramme im USAMV Cluj-Napoca ist das Dokument, das auf der Grundlage offizieller Dokumente des Bildungsministeriums den Rahmen für die Organisation der psycho-pädagogischen Ausbildungsprogramme bietet, genauer gesagt zielt es darauf ab, die Kompetenzen für den Lehrerberuf durch die zwei Stufen zu zertifizieren: Stufe I (Grundausbildung) und Stufe II (Vertiefung). Die Methodik stellt sowohl den Lehrplan dieser psychopädagogischen Ausbildungsprogramme als auch ihre Lehrpläne vor. Sowohl auf der Stufe I als auch auf der Stufe II sind die Unterrichtsfächer in zwei Kategorien unterteilt: die Fächer der psychopädagogischen Grundausbildung und die Fächer der fachdidaktischen und praktischen Ausbildung. In Anhang 2 dieser Methodik werden die für die Fachinhalte verfügbaren Stundenpläne und die Bewertungsmethode vorgestellt.

1. Introduction

The aim of higher education is to create and share knowledge to society by:

a) initial and ongoing training at university level, with the aim of personal development, professional integration and instruction in the socio-economic environment;

b) scientific research, innovation, development and technology transfer, through individual and collective creation, in the fields of science, engineering, arts, literature, by ensuring physical and sports performance and development, and the exploitation and distribution of their results. (National Education Law 1/2011, art. 117). We note that university education focuses, on the one hand, on the development of the formative and informative side of students in the field of specialisation (initial and ongoing training) and, on the other hand, on their research activity.

Closely related to point a) of article 117 is article 236 of the National Education Law 1/2011, which refers to initial training in the field of teaching careers: Initial training for teaching positions in pre-university education includes:

a) initial, theoretical, specialist training carried out by universities in programmes accredited in accordance with the law;

b) completion of a two-year master's degree in teaching or training in level I and II psycho-pedagogical training programmes carried out by specialist departments in higher education institutions;

c) a practical training period of one school year, carried out in an educational establishment, usually under the supervision of a mentor teacher.

2. Methodology of organization and functioning of the Psycho-pedagogical Training Programs in USAMV Cluj-Napoca - critical analysis

The National Education Law No. 1/2011, as amended and supplemented, and the Order of the Minister of Education No. 3850/02.05.2017, as amended and supplemented by O.M. 4129/16.07.2018, govern how the Psycho-Pedagogical Training Programs of the University of Agricultural Sciences and Veterinary Medicine Cluj-Napoca are organised and run.

This methodology has the following structure:

▪ Chapter I: Organisation of psycho-pedagogical training programmes

▪ Chapter II: Admission to psycho-pedagogical training programmes

▪ Chapter III: Curriculum of psycho-pedagogical training programmes

▪ Chapter IV: Formal curricular document of psycho-pedagogical training programmes

▪ Chapter V: Completion of psycho-pedagogical training programmes

▪ Chapter VI: Certification of competences for the teaching profession

▪ Chapter VII: Final provisions.

Chapter I specifies that the organisation of psycho-pedagogical training programmes aims at the certification of competences for the teaching profession and presents the levels for which this can be obtained, respectively Level I (initial) and Level II (advanced). Level I offers university graduates the opportunity to teach in nursery, preschool and compulsory education, under the condition that they have accumulated a minimum of 30 transferable credits from this instruction programme. Level II offers graduates the opportunity to teach at all levels of pre-university education, if two criteria are met simultaneously: graduates must accumulate at least 60 transferable credits (30 credits from level I and 30 credits from level II) and the completion of one of the study categories - master's degree, long university studies, postgraduate programme lasting at least one and a half years or ensuring the accumulation of at least 90 credits, professional conversion programme for the acquisition of new specialisations, completed after the completion of master's degree or long university studies. This chapter also specifies that this category of training is organised on a full-time basis.

Chapter II presents aspects concerning admission to psycho-pedagogical training programmes, such as: language, who can apply, admission conditions, how admission is carried out, students' rights and obligations, funding scheme. In this chapter it is stated that the subjects of the Level I Psycho-pedagogical Training Programme are integrated into the curricula of the faculties, with the status of optional subjects. Article 5(1) specifies that if a graduate who did not follow the psycho-pedagogical training programme during their college studies have the opportunity to enrol for this programme in the postgraduate course regime. Also included here are issues related to enrolment in postgraduate Levels I and II as well as how to apply for admission. This chapter mentions the documents required for Level I and Level II applications.

Chapter III presents the structure of the curriculum of the psycho-pedagogical training programmes, which is split into 3 categories: core, extended and optional curriculum. The core curriculum comprises the subjects and teaching activities that are compulsory for Levels I and II. The core curriculum consists of two packages of subjects: subjects of fundamental psycho-pedagogical training and subjects of specialised teaching and practical training. The extended curriculum is made up of the subjects and compulsory teaching activities for Level II and also comprises two packages of subjects: subjects for the extension of psycho-pedagogical training and subjects for the extension of specialist teaching and practical training. The optional curriculum consists of two subjects; one subject is chosen from each of the two packages of optional subjects offered by the Level II curriculum.

Chapter IV states that the formal curricular document for the teaching profession are established at national level by OMEN No 3850.

Chapter V presents the aspects of the completion of psycho-pedagogical training programmes. It is completed, for each level of certification, with a graduation exam. The criteria of the evaluation are comprised of preparing a teaching portfolio, which they have to support. It includes documents that show, in brief, the level and quality of the competences acquired by the students through this instruction programme. For both levels, the teaching portfolio must include the following materials: SWOT analysis for the teaching profession, the education system; activities/ projects with themes given by each teacher

in each of the subjects studied; completion of seminar activities in each subject (using workbooks); project with theme given for the Computer-Assisted Instruction subject, presented in PowerPoint version; online tests/ lessons (Kahoot version); attendance sheets for mentor teachers' lessons (Pedagogical Practice I, Level I); analysis sheets for lessons given by peers (Pedagogical Practice II; Level I); psycho-pedagogical sheet; teaching projects; activity sheets, as well as other elements according to the specifics of the subjects in the Department for Teacher Training Formal curricular document for Level I and Level II respectively (Chapter V, art. 10, para. (3)).

This chapter mentions the allocation of credits, as well as the condition of passing the graduation exam. There are also details of possible particular situations that may arise, followed by solutions:

▪ students on ERASMUS mobility, who are unable to complete one or more subjects, have the possibility to catch up later;

▪ students have the possibility to make up one subject per semester, at the same time as the subjects related to the semester/ year of study; exceptionally, in the 4th year, undergraduate level, students can make up 2 subjects per semester (subjects related to year 3 of the formal curricular document);

▪ the recovery of subjects is carried out in accordance with the fee system for the arrears;

▪ students transferring from other universities, who have followed the Level I training programme, may continue the programme on the basis of their academic record attached to a written application;

▪ if the student withdraws from the programme, he/she loses the right to complete the Level I programme without payment of a fee during the undergraduate studies; in this case, the completion of Level I can be solely done on a postgraduate basis, with payment of a fee, with recognition of the credits of the subjects previously passed.

Chapter VI is intended for the certification of competences for the teaching profession. This chapter specifies that graduates of university studies who have completed the Level I training programme and passed the graduation examination receive the Certificate of Completion of the Psycho-pedagogical Training Programme - Level I (only after obtaining the Bachelor's d'egree), which enables them to teach in nursery, preschool and compulsory education. Graduates who have completed the Level II training programme and passed the graduation exam receive

the Certificate of Completion of the Psycho-pedagogical Training Programme - Level II, giving them the opportunity to take up teaching posts at all levels of the national pre-university education system. According to art. 14, para. (3), graduates who did not pass the graduation exams of the psycho-pedagogical training programmes may apply for a certificate stating the subjects passed.

In Chapter VII, Final provisions, art. 17 specifies that for graduates who have completed level I/II psycho-pedagogical training programmes, the correspondence between the fields of university studies completed and the subjects that may be taught in pre-university education shall be established according to the Summary Table on teaching subjects, fields and specializations, as well as the competitive examinations, for the employment of teaching staff in pre-university education, approved annually by order of the Minister of National Education; for university studies which have not been completed in Romania, the correspondence is based on the recognition certificate issued by the National Centre for the Recognition and Equivalence of Diplomas. This chapter also specifies that graduates who have completed (with a diploma) long or short university studies by 2005 are considered to have completed Level I and Level II training programmes, if they provide proof of having completed the following subjects: School Psychology, Pedagogy, Teaching Methodology and Pedagogical Practice in the speciality indicated on the bachelor's degree.

According to art. 20, para. (1) and (2), in order to obtain the Certificate of Completion of the psycho-pedagogical training programme - Level I for a specialisation other than the initial one, 22 credits previously obtained in the disciplines of fundamental psycho-pedagogical training (18 credits) and in the disciplines of Computer-Assisted Instruction (2 credits) and Pedagogical Practice (2 credits) are recognised. In order to obtain the certificate for a new specialisation, the student/graduate must complete the subjects Didactics of Speciality (5 credits) and Pedagogical Practice (3 credits), thus obtaining the 8 credits.

In order to obtain the Level II certificate in another undergraduate field of study, the 20 credits previously obtained in the extension subjects of the psycho-pedagogical training and in the optional subjects are recognised. For this purpose, it is necessary to complete the subjects of the specialist didactic and

practical training and to obtain the 10 corresponding credits.

The chapter concludes with details of pedagogical practice, pointing out that this is carried out on the basis of agreements concluded between the educational institutions providing psycho-pedagogical training and the school inspectorates to which the educational establishments where pedagogical practice is carried out belong. In addition, the pedagogical practice can be carried out as a traineeship under the Erasmus+ programme, which must be attested by the Europass Mobility document.

3. Critical analysis of the Level I Formal Curricular Document

The Formal curricular document is a core curricular product that sets out the subjects and the time resources required to address them (period of study of the subject, number of hours per week and total number of hours - presented separately for courses and for applied activities), as well as the form of assessment and number of credits for each subject.

We present below the analysis of the Formal Curricular Document for the 30 credits psycho-pedagogical study programme for Level I (initial) certification for the teaching profession, valid from the academic year 2022-2023, according to Annex 2 to OM No 4139/29.06.2022.

The teaching subjects are structured in two categories: *subjects of fundamental psycho-pedagogical training* (compulsory) and *subjects of specialised didactic training and practice* (compulsory). The first category includes the subjects: *Educational Psychology, Pedagogy I (Fundamentals of Pedagogy, Theory and Methodology of the Curriculum), Pedagogy II (Theory and Methodology of Instruction. Theory and Methodology of Evaluation) and Classroom Management*. The second category includes the following subjects: *Didactics of Speciality, Computer-Assisted Instruction, Specialised Pedagogical Practice in Pre-University Education* (observational practice and teaching practice).

The following is an analysis of each of the subjects in the Formal curricular document as set out in this document:

▪ *The discipline of Educational Psychology* is studied in the first year, in the first semester, for a duration of 14 weeks, with 2 hours of lecture and 2 hours of seminar as time resources allocated per week.

In total, there are 28 hours dedicated to courses and 28 hours dedicated to seminar activities (total: 56 hours). In this subject, assessment is by examination and 5 credits are allocated.

▪ *Pedagogy I* covers the content of the Fundamentals of Pedagogy and Theory and Methodology of the Curriculum. This subject is studied in the second semester of the first year for a period of 14 weeks. Each week, 2 hours of course activity and 2 hours of applied activity are allocated, for a total of 28 hours of course and 28 hours of seminar (total: 56 hours). Assessment is by examination, with 5 credits allocated to the subject.

▪ *Pedagogy II* includes content specific to Theory and Methodology of Instruction and Theory and Methodology of Evaluation. This subject is taken in the second year, in the first semester (semester 3), for a duration of 14 weeks. 2 hours of courses and 2 hours of seminars are allocated to this subject each week. A total of 28 hours of courses and 28 hours of seminars (total: 56 hours) are allocated over the whole semester. As in Pedagogy I, the assessment is by examination and 5 credits are allocated to this subject.

▪ *The subject of Classroom Management* is studied in the third year, during the second semester, over a period of 14 weeks. In terms of time resources, this subject is allocated one hour of course and one hour of seminar per week. Overall, there are 14 hours of lecture and 14 hours of seminar, for a total of 28 hours per semester. Assessment is by examination, with this subject being awarded 3 credits.

▪ *The subject Didactics of Speciality* is studied in the second year, in the second semester (semester 4), and is taken over 14 weeks, with 2 hours of courses and 2 hours of seminars per week. In total, 28 hours of courses and 28 hours of seminars were allocated, totalling 56 hours. Assessment is by examination, with 5 credits allocated to the subject.

▪ *Computer-Assisted Instruction* is taken in the third year, semester I (semester 5), over a period of 14 weeks. This subject will be studied during one hour of course and one hour of seminar per week, in total 14 hours of course and 14 hours of seminar (total: 28 hours). The assessment consists of a colloquium and the Computer-Assisted Instruction subject is awarded 2 credits.

▪ *The subject of Specialised Pedagogical Practice in Pre-University Education* is taken in the third year, during both semesters (semesters 5 and 6). In the first semester the observational practice is carried out during 14 weeks, while in the second

semester it is taken during 12 weeks. As regards, the difference in the number of weeks between the two semesters, Annex 2 contains a clarification that the last semester of the university studies is 10-12 weeks. (Please note that this formal curricular document applies to 3/4/5/6 year undergraduate studies.) As the subject is concerned with observational practice (semester I) and teaching practice (semester II), there are no hours devoted to courses but only to applied activities - 3 hours per week, totalling 42 hours in semester I and 36 hours in semester II. In both semesters the assessment consists of a colloquium, with the observational practice being allocated 3 credits and the teaching practice 2 credits.

In total, the student/ graduate who enrols in and completes the Level I training programme spends 140 hours on coursework and 218 hours on applied activities, for a total of 358 hours. In terms of assessment, the trainee has to take 5 exams and 3 colloquia, thus accumulating 30 credits.

The Level I graduation exam is taken in the third year, second semester (semester 6), within a period of 2 weeks. As stated in the formal curricular document, the two-week period provided for the graduation exam is allocated for the completion of the teaching portfolio. For the examination 5 credits are awarded.

We note that the subjects are not presented in the order of their study, but according to the category to which they belong - subjects of fundamental psycho-pedagogical training or subjects of specialised teaching and practical training. For example, the subject of Classroom Management, although not studied until the 6th semester, appears in the Curriculum after Pedagogy II, as it is a fundamental subject.

4. Critical analysis of the Level II Formal Curricular Document

The formal curricular document for the 30 credits extension psycho-pedagogical studies program for Level II (deepening) certification is intended for undergraduates. This curricular product is valid from the academic year 2022-2023 and is realized according to Annex 2 of OM 4139/29.06.2022.

This Formal curricular document is structured in the same way as the Formal Curricular Document for Level I, presenting the subjects to be studied, the period of study of the subject (year of study, semester and number of weeks), the number of hours per week - presented separately for courses and applied

activities, the total number of hours devoted to the study of these subjects - presented separately for courses, seminar activities and the total number (course + seminar), the assessment method and the credits allocated to each of these subjects.

While the Formal Curricular Document for Level I covers the core curriculum, the Curriculum for Level II covers the extended curriculum and the optional curriculum. The Formal Curricular Document for Level II comprises three categories of subjects: *fundamental psycho-pedagogical training subject*s (compulsory), *specialised didactic training and practice subjects* (compulsory) (these two categories of subjects constitute the extended curriculum) and *optional subjects* (this last category constitutes the optional curriculum), each of which is allocated 10 credits. Included in the category of fundamental psycho-pedagogical training subjects are the subjects of *Psycho-pedagogy of Adolescents, Young People and Adults* and *Design and Management of Educational Programmes*. The category of subjects of specialised didactic training and practice includes *Didactics of the Field and Developments in the Didactics of Speciality* (secondary education, post-secondary education, as appropriate) and *Specialised Pedagogical Practice in Pre-University Education* (secondary education, post-secondary education, as appropriate). The category for optional subjects comprises two optional packages, one subject being chosen from each. *Optional package 1* comprises the following subjects: *Educational Communication*, *Counselling and Guidance*, *Educational Research Methodology* and *Integrated Education*. *Optional Package 2* includes the subjects: *Sociology of Education*, *Management of School Organisation*, *Educational Policies*, *Intercultural Education* and *Contemporary Pedagogical Doctrines*.

The following is an analysis of each subject in this formal curricular document:

▪ *The subject of Psycho-pedagogy of Adolescents, Young People and Adults* is studied over 14 weeks, with 2 hours of course work and one hour of applied work per week. In total, 28 hours are allocated to courses and 14 hours to applied activity (total: 42 hours). The course ends with an examination, for which 5 credits are awarded.

▪ The study of *the subject of Design and Management of Educational Programmes* is carried out over a period of 14 weeks, with 2 hours of courses and 1 hour of seminars per week. In total, there are 28 hours of lectures and 14 hours of seminars (42 hours

overall). Assessment involves taking an exam, with the learner receiving 5 credits for passing.

▪ *The subject Didactics of the Field and Developments in the Didactics of Speciality* (secondary, post-secondary education, as appropriate) is studied over 14 weeks, with 2 hours of course and 1 hour of seminar per week, totalling 28 hours of course and 14 hours of seminar (total: 42 hours). As for the assessment method, this is carried out by means of an examination, the subject being awarded 5 credits.

▪ The subject of *Specialised Pedagogical Practice in Pre-University Education* (secondary, post-secondary, as appropriate) is taken over a period of 14 weeks, with 3 hours per week allocated to practical activities (total: 42 hours); as this is an applied subject, there are no hours allocated to courses. The assessment involves a colloquium, which is awarded 5 credits.

▪ The subject chosen from Optional Package 1 is studied in semester II, over a period of 14 weeks, with 1 hour of course and 2 hours of seminar per week, with a total of 14 hours for courses and 28 hours for applied activities (total: 42 hours). Assessment is by examination, with 5 credits allocated to the subject.

▪ The subject chosen from Optional Package 2 is studied in semester III, over 14 weeks, with one hour per week for courses and 2 hours per week for practical activities. In total, there are 14 hours allocated to courses and 28 hours allocated to seminar work (total: 42 hours). The assessment consists of an examination, the subject carries 5 credits.

In total, the trainee enrolled in the Level II training programme allocates 112 hours to courses and 140 hours to applied activities, for a total of 252 hours. In terms of assessment, the trainee takes 5 exams and a colloquium, thus accumulating 30 credits.

The Level II graduation exam is taken in the fourth semester, with 2 weeks allocated. As stated in the Curriculum, the two-week period for the graduation exam is allocated to the completion of the teaching portfolio. 5 credits are awarded for the examination.

5. Conclusions

As we have seen, this methodology highlights and clarifies the aspects related to the training of students in the field of teaching careers - the completion and graduation of the Level I and Level II psycho-pedagogical training programme. The guidelines outlined in this document aim to outline the necessary framework for the development of student/ graduate training in the field of teaching.

Authors note: The authors have equal contributions to this article.

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Social-emotional Development in Adolescents and Friendship. A Theoretical Review

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Social-emotional Development in Adolescents and Friendship. A Theoretical Review

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Abstract	
Keywords: socio-emotional development; adolescence; friendship; socio-emotional skills; emotional intelligence; self-centeredness; moral development; development identity; self-esteem.	In this research we conducted a systematic review of the characteristics of social-emotional development in adolescents and the extent to which they are influenced or correlated by the concept of friendship. We also investigated the influence of socio-emotional traits on the quality of friendship in adolescence. To achieve this, we searched for published scientific studies from several major databases. . The main keywords used for this study were "Adolescence", "Friendship", "Social-emotional development", "Social development", "Emotions". We initially identified 123 studies with the mentioned keywords and we decided that 73 studies are eligible for the purpose of this research. Those were read and analyzed in full-text format. Following this stage, we decided to include 29 studies in the review. We identified a large diversity in the sample of participants presented in the study, with a total of 11,684 participants; from the total of eligible studies, three are systematic reviews that have explored our key concepts (friendship and concepts related to social-emotional development). Through this systematic review, we were able to summarize the current data and knowledge about friendship, social-emotional development and relationships between the two, during adolescence.

Zusammenfasung	
Schlüsselworte: Sozio-emotionale Entwicklung; Adoleszenz; Freundschaft; sozio-emotionale Fähigkeiten; emotionale Intelligenz; Selbstbezogenheit; moralische Entwicklung; Entwicklungsidentität; Selbstwertgefühl.	In dieser Forschung führten wir eine systematische Überprüfung der Merkmale von sozial-emotionalen Entwicklung bei Jugendlichen und das Ausmaß, in dem sie durch die Konzept der Freundschaft. Wir untersuchten auch den Einfluss sozio-emotionaler Merkmale auf die Qualität der Freundschaft in der Adoleszenz. Um dies zu erreichen, suchten wir nach veröffentlichten wissenschaftlichen Studien aus mehreren großen Datenbanken. Die wichtigsten Schlüsselwörter, die für diese Studie verwendet wurden, waren "Adoleszenz", "Freundschaft", "Sozial-emotionale Entwicklung", "Soziale Entwicklung", "Emotionen". Wir identifizierten zunächst 123 Studien mit den genannten Schlüsselwörtern und entschieden uns für dass 73 Studien für den Zweck dieser Forschung in Frage kommen. Diese wurden gelesen und analysiert in Volltextformat. Nach dieser Phase haben wir beschlossen, 29 Studien in den Review einzubeziehen. Wir identifizierte eine große Vielfalt in der Stichprobe der in der Studie vorgestellten Teilnehmer, mit insgesamt 11.684 Teilnehmer; Von der Gesamtzahl der in Frage kommenden Studien sind drei systematische Übersichtsarbeiten, die erforschte unsere Schlüsselkonzepte (Freundschaft und Konzepte im Zusammenhang mit sozial-emotionaler Entwicklung). Durch diesen systematischen Review konnten wir die aktuellen Daten und Erkenntnisse zusammenfassen über Freundschaft, sozial-emotionale Entwicklung und Beziehungen zwischen den beiden, während Adoleszenz.

1. Introduction

Adolescence is marked by the freedom of decisions made by individuals and the beginning of a period full of changes (emotional, physical, social), all encompassing transformation of the child, initially in a teenager and later in a budding adult. Puberty is a period of rapid changes in development, and at the end of this period, adolescents become capable of reproduction.

The authors (Curtis, 2015; Eaton et al., 2012; Smith et al., 2014; Steinberg, 2008) frame adolescence in different age segments. For our study, we chose an age range of 11-18 years. The World Health Organization (2021) defines adolescence as a phase of transition in growth and development between childhood and adulthood, a teenager being any person between the ages of 10 and 19 years. Sullivan (1953) presents a theoretical approach to explain the importance of friendship. The author explains that specific interpersonal needs appear in different periods of development, and there are social relationships suitable for these needs.

Our work aims to identify the extent to which friendship influences socio-emotional development, respectively socio-emotional skills. We track traits

friendship and factors that can develop specific skills during this period of development, through a systematic review from multiple sources. Thus, we have ensured a minimum of biases.

Researchers (Larson & Richards, 1994; Larson & Sheeber, in press) shows that adolescents experience daily fluctuations in emotional states, and the ability to learn to organize and control these emotions is absolutely a must for their effectiveness in everyday tasks and well-being. And this is valid for both adolescence and adult life , in fulfilling different roles: friend, student, parent, colleague (Hartel, Zerbe, & Ashkanasy, 2005; Salovey & Sluyter, 1997). Studies show that emotional development must be understood in relation to the specific cultural contexts of real life (Haviland & Kramer, 1991; Saarni et al., 2006; Zeidner, Matthews, Roberts, & MacCann, 2003).

Friendship therefore has a significant role during adolescence due to dynamics present in this stage of development: the risk of deviant behaviors is at its' highest , the social environment is very diverse and requires communication strategies, coping and emotional regulation, predominantly new emotions appear and adolescents are much more aware of feelings such as shame, anger, pride. It is a time when, due to uncertainties and sudden changes, isolation may occur, and with it, depressive symptoms and disorders of sleep or problems of outsourcing and internalization.

2. Method

2.1. Eligibility criteria:

▪ Study participants must be between the ages of 11-18 to encompass all stages of adolescence (early adolescence, middle adolescence, and late adolescence); a period in which social relations have a significant impact;

▪ Collection of studies that provide results on the topic of concern (friendship and traits of socio-emotional development);

▪ We have included studies that have at least two keywords mentioned in the section "Defining the problem";

2.2. Search strategy:

The terms used in the search process are summarized in Table 1. Main keywords dominant were "Adolescence", "Friendship", "Social-emotional development", "Development social", "Emotions". The platforms from which we extracted the articles

from the literature are: Google Scholar, Social Science Index Database, SSRN, Semantic Scholar, Science Direct, PsycINFO, Med Line, D.A.I., Open Access Thesis. We also conducted a search in the list of references of the articles selected for the work.

Table 1. Search strategy overview

Databases	Social Science Index Database, SSRN, Semantic Scholar, Science Direct, PsycINFO,MedLine, D.A.I., Open Access Thesis.
Other sources	List of references to articles about friendship, adolescence and socio-emotional development.
Search terms	Terms related to friendship: friend*
	Terms related to adolescence: "teen", "youth", "preadolescent", "juvenile", "middle"
	school", "high-school", "secondary school", "student".
	Terms related to social-emotional development: attachment, self-esteem, development morals, emotion management, risk and resilience, empathy, problem solving, emotional intelligence, parenting.
Restrictions	Articles published in English, samples of people, average age between 11-18 years.

2.3. Selection of studies:

As can be seen in Table 2 of the classification of studies according to the PRISMA model and in the PRISMA diagram, we initially identified 123 studies through the chosen search strategy.Then , there were 106 items left and 17 were excluded because they did not meet any of the eligibility criteria stated. The screening process involved analysis of each title and abstract of the identified studies. We assessed the eligibility for 73 studies in full-text format, and following this stage we decided to include in the review 29 Studies.

2.4. Data extraction:

We extracted the reference information, methodological characteristics and a summary of the results relevant from eligible studies.

PRISMA diagram:

2.5. Identification of studies via databases and registers:

Idenfication:

Records identified from *

Databases (n=117)

Registers (n=6)

→ Records removed before screening: Duplicate records removed (n=17)

Screening:

Records screened (n=106) - Records excluded (n=11)

Reports sought for retrieval (n=106)

Reports assessed for eligibility (n=73)

Included:

Studies included in review (n=29)

Table 2. Classification of studies according to the PRISMA model

IDENTIFICATION	Studies identified through search platforms: n=117
	Additional studies identified from other sources: n=6
SCREENING	Studies remaining after screening: n=106
ELIGIBILITY	Full-text articles assessed for eligibility: n=73
STUDIES INCLUDED	Studies included in the Qualitative Synthesis: n= 29

3. Results

3.1. Sampling, population and design:

From the articles eligible for review we have extracted the following key information (see Table 5): the author and year, sample size, design, recruitment mode, tools used, and traits of social-emotional development influenced or influencing friendship. Studies were performed in China (Qu, Li & Wang, 2021), USA (Weimer, Kerns & Oldenburg, 2004; Hamm & Faircloth, 2005; Rubin, Dwyer, LaForce, Kim, Burgess & Krasnor, 2004; Rawlins & Holl, 2014; Buhrmester, 1990; Rubin & Fredstom, 2008; Cillessen, Jiang & West, 2005; Kraft & Mayeux, 2018; Dougan & Pearson, 2014; Larson & Brown, 2007), Europe, and America (Matheson, Olsen & Weisner, 2007), Russia (Kon & Losenkov, 1978), Germany (Berndt, 2015; Bechtiger, Steinhoff, Buchmann &

Shanahan, 2021), Canada (Poulin & Chan, 2010; Bowker, 2004), Turkey (Demir, Simsek & Procsal, 2012), Norway (Melberg, 2020), Ireland (Keijsers, Branje, Frijns & Meeus, 2011; Kenny, Dooley & Fitzgerald, 2013), Italy (Ciairano, Rabaglietti, Roggero, Bonino & Beyers, 2007), Korea (Park & Enright, 1997).

In total, we found 11,684 participants in all eligible studies; the majority of the studies were correlational, then observational, a cross-analysis (follow-up analysis), a path analysis , two longitudinal studies and four reviews. The average age of the participants was 14,4.

3.2. Tools for friendship:

The most common tool for the concept of friendship was the "Friendship Quality Questionnaire" (Qu, Li & Wang, 2021; Weimer, Kerns & Oldenburg, 2004; Rubin, Dwyer, LaForce, Kim, Burgess & Krasnor, 2004; Bukowski, Hoza & Boivin, 1993; Cillessen, Jiang & West, 2005; Ciairano, Rabaglietti, Roggero, Bonino & Beyers, 2007) , and a study used the revised version of this questionnaire.

The "Friendship Quality Questionnaire" has six reported subscales: validation and care, conflict resolution, conflict and treason, help and guidance, companionship and recreation, privacy. The main constructs measured by this tool are interpersonal skills, and the scale is Likert type. It is administered in writing, on paper. Some items from the tool are: "My friend and I spend all our free time together", "If I forgot my lunch or needed the money, my friend would borrow", "If my friend had to move, I would miss him/her".

3.3. Tools for socio-emotional development:

We found a tool that evaluates the attachment "Adult Attachment Interview" (Zimmerman, 2003). The interview contains 20 open questions, and some dimensions of evaluation are: description of relationships with the parents of the subject, features that reflect the participants' relationship with their mother, if they have experienced the loss of a loved one. Other tools are "Socioemotional Adjustment", "Self-Reports of Social Behavior", "Network of Relationships Inventory".

3.4. Concepts of social-emotional development that influence friendship:

The model of parent-child communication formed in the family environment is an important pattern for

friendship relationships in adolescence (Qu, Li & Wang, 2021). The dyads in which both partners have a secure attachment, with a behavior that encourages connection and shows clarity in relation to the message sent by the interlocutor; in other words, teenagers with secure attachment will develop more effective communication skills that will then be useful for friendly relations in the context of a conflict or in the process of taking decisions (Weimer, Kerns & Oldenburg, 2004). Teenagers with secure attachment report that they integrate more easily into collectives (even at school) and develop emotional regulatory skills in the context of conflicts with their friends; they also show less hostility and have low scores on social anxiety (Zimmerman, 2003).

3.5. How friendship influences social-emotional development:

Friends are a source of trust and help (emotional and physical), both in the academic and non-academic environment. Friends can help develop self-esteem and self-confidence in social contexts of vulnerability or bullying. They can encourage participation in extracurricular activities and the formation of a psychological bond with the school. Acceptance by colleagues and friends has a strong impact on the formation of the feeling of belonging to school. Friendship can work as a buffer for stressful events in the family or in relationships with colleagues. Close friends have a protective, adaptive and resilient role in the face of problems and stressful academics (Hamm & Faircloth, 2005; Matheson, Olsen & Weisner, 2007). Friendship has a major impact (in early adolescence) on the development of personality, social skills and social behavior. Friendship encourages prosocial behaviors and an important feature is reciprocity (Berndt, 2015). Friendship provides emotional security and promotes increased social skills (Rubin & Fredstom, 2008). The feeling of uniqueness correlates positively with the quality of friendship and with happiness. Friendship experiences are positively correlated with the feeling of uniqueness. Positive experiences of friendship create several indicators for the individual that promotes self-acceptance and uniqueness, these factors contributing to the happiness of the individual (Demir, Simsek & Procsal, 2012).

4. Discussions

Our systematic review aimed at identifying common traits attributed to the concept of friendship, its relationship with the features of socio-emotional

development in the period of adolescence and the extent to which the two concepts influence each other, in positive or negative valences.

We identified a high diversity in the sample of participants presented in the study, with a total of 11,684 participants; from the eligible studies, three are systematic reviews that have explored our key concepts (friendship and concepts related to development socio-emotional).

In terms of age, the average age of the participants was 14,4, having thus a representative sample of adolescents from both early adolescence and from late adolescence. In the systematic review conducted by Hair, Jager & Garrett (2002), 360 articles were introduced into the study in which to explore or assess social competence in the period of adolescence. In Berndt's review (2015), the sample of participants was from the period of early adolescence, showing that the features of friendship to this age are more positive in terms of intimacy and responsiveness in relation to other years of adolescence. In the review conducted by Poulin & Chan (2010), the sample of participants was made up of children and adolescents, with the main objective of assessing stability in time of friendship relations; the conclusion of the study was that friendship is a dynamic construct, and is constantly influenced by stimuli and events from the outside.

Review by Rubin & Fredstom (2008) explores the functions that friendship performs in late childhood and early adolescence. The results of the study showed that friendship provides affection, emotional security, gives advice and has instrumental purposes. It also forms patterns for future romantic relationships, for marital relations and for the relationship with the parents.

5. Future implications and limits:

A major limit identified is the database insufficiently large to cover variations in age or gender. Another limit is that all the studies included in the systematic review were in English, and in this context we can say that an important future direction is the collection of studies in several languages. Also, a limit to the study was that we did not have access to all the databases eligible for the study.

6. Conclusions

Some conclusions related to the study carried out by us would be that the attachment of a child will have significant influences in all the social relationships that

it will form in adolescence and in the adult period, and the relationship between the child and the parent and the communication between them will be, by also a predictor of the quality of friendship. We believe that future studies could observe the causal relationships between these concepts and a future longitudinal study could discover the social evolution of a child with insecure attachment when the factors are favorable. On the other hand, we have noticed that friendship is very often correlated positively with social adaptability, with the formation of a positive self-image, with development resilience and with the development of an ability to express thoughts and emotions.

Through this systematic review we were able to summarize the current data and knowledge about friendship, about the social-emotional development and about the relationships between the two, in the period of development of adolescence. To outline a clearer picture of attachment influence in forming friendship we need a more detailed study and more data from studies longitudinal because it is more relevant to consider data about this topic over a long period of time, thus noting the changes from one year to the next and the implications of life experiences.

Authors note:

Bora Alina Master s degree, psychology, socio-emotional development in adolescence, friendship.

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Musical Activities Performed During Music and Movement Classes at the Primary School in Romania

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Musical Activities Performed During Music and Movement Classes at the Primary School in Romania

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Abstract	
Keywords: musical education; primary school; musical activities; teaching aids; teachers.	Quality music education can only be achieved when the activities proposed by teachers during music and movement classes are designed for the development of musical skills in children. For this purpose to be achieved, teachers must have musical skills that allow them to perform various musical activities. Through this study we explore the opinion of teachers teaching music and movement at primary school about the musical activities they perform. This research is based on a design based on a quantitative analysis: A questionnaire attended by 1,151 teachers from the primary school in Romania. These data were taken from 28.05 to 26.06.2021. The main results point out that singing on a voice, musical listening and teaching are the reference activities to the primary cycle. Teachers also use YouTube, various platforms and teaching tools made by other colleagues for their own musical activities. It is obvious that the institutions that can propose training activities for teachers have never organized, in proportion of 59, 3% musical training activities.

Zusammenfasung	
Schlüsselworte: musikalische Bildung; Grundschule; musikalische Aktivitäten; Lehrmittel; Lehrer.	Eine qualitativ hochwertige Musikpädagogik kann nur erreicht werden, wenn die von den Lehrern im Musik- und Bewegungsunterricht vorgeschlagenen Aktivitäten auf die Entwicklung musikalischer Fähigkeiten bei Kindern ausgerichtet sind. Zu diesem Zweck müssen Lehrer über musikalische Fähigkeiten verfügen, die es ihnen ermöglichen, verschiedene musikalische Aktivitäten durchzuführen. Durch diese Studie erforschen wir die Meinung von Lehrern, die Musik und Bewegung in der Grundschule unterrichten, über die musikalischen Aktivitäten, die sie durchführen. Diese Untersuchung basiert auf einem Design, das auf quantitativer Analyse basiert: Ein Fragebogen, der von 151 Lehrern der Grundschule in Rumänien besucht wurde. Diese Daten stammen vom 28.05. bis 26.06.2021. Die Hauptergebnisse zeigen, dass das Singen auf einer Stimme, das musikalische Hören und der Unterricht die Referenzaktivitäten zum Primärzyklus sind. Lehrer nutzen auch YouTube, verschiedene Plattformen und Lehrmittel anderer Kollegen für eigene musikalische Aktivitäten. Es ist offensichtlich, dass die Institutionen, die Ausbildungsaktivitäten für Lehrer vorschlagen können, nie im Verhältnis von 59, 3% musikalische Ausbildungsaktivitäten organisiert haben. Der Beitrag dieser Studie zielt darauf ab, die wichtigsten musikalischen Aktivitäten von Lehrern der Grundschule in Rumänien und ihren Bedarf an Schulungen für diese Aktivitäten zur Entwicklung musikalischer Fähigkeiten für Kinder hervorzuheben.

1. Introduction

The importance of means and modalities of any kind in education substantially influences the process of discovery and knowledge, being a support of the thinking process, greatly expanding the possibilities of investigation when the teacher uses them during the classes. Whether they are modern or classical teaching aids, the purpose for which they are used in the lesson is a contributing factor to school success.

In music education classes, the ways and means of expression for this art are diverse and can be treated interdisciplinary and transdisciplinary. In primary school classes, according to the age of children, music education is an essential and beneficial factor in the harmonious development of the body, from a cognitive point of view, of intellectual, psychological and social capacities. Music also covers a very wide spectrum, as it addresses both auditory, visual, kinesthetic and motor levels.

The vast majority of children study in schools of general culture where the educator or teacher has a special role in discovering children who have a talent for the art of sound. Of course, it is preferable that at this age, regardless of the parents' options, children study an instrument, and if they do not have this

opportunity, at school, in the classes dedicated to music education, the teacher / teacher has the opportunity to develop the children's skills and talents in different ways that we will describe. I mention that the ways of achieving musical education are very vast, but we will briefly address some of these ways that have been used in the past and are still current, and others have become current due to the progress of technology and new psycho-pedagogical approaches.

From my own experience as a teacher, I consider that the most important and appreciated ways of approaching musical education at the primary school are the following: singing, learning an instrument, musical listening, rhythmogram and musicogram, teaching games, music, body percussion, eurythmia and music software used extensively lately due to the SARS-CoV-19 pandemic.

2. Theoretical foundation

We highlight some of the most important aspects of musical education at school age. Singing is one of the oldest forms of music through which man expresses himself when he feels the need. As physical benefits, singing develops respiratory function and increases blood oxygenation, and this effect can often reduce stress and improve health. Regular musical activities can improve the functionality of the lungs by increasing the volume of air and the development of the whole body (Moss H, Lynch J, O'Donoghue J., 2018). Neurologically, singing behavior goes through different areas of the brain, including development and interaction between parts of the brain that are specialized in some aspects of music**.**

Most recently, a major longitudinal study provides evidence of the basis for the impact of music by examining the effects of musical training on the developmental trajectory of children's brain structure, starting at the age of six (Habibi et al, 2017). Also, singing in groups ,in the classroom, develops areas involved in interaction, coordination , empathy and positive social impact (Costa-Giomi, 2004; Hallam, 2011; Rickard and Colab., 2013; Ritchie and Williamon, 2011; Welch .Limonides, Saunders, Papageorgi and Sarazin, 2014; Williams and Col., 2015), according to the latest research. When children sing in a group or in a choir, either within the classroom, school, or community, a sense of inclusion develops, which brings social benefits. Group singing gives the group an identity in a positive way, beneficial both on the physical and mental level. On the psychological level, singing is related to the

intrapersonal and interpersonal communication (when it comes to an ensemble), develops individual identities and stimulates self-esteem by giving the student a state of well-being, confidence in his own powers.

Together with the song, the musical audition helps to decode the humanistic messages of music, qualities of a representative repertoire from the great history of universal and local music . Through listening, children can feel the effects of the great music transmitted through states such as joy, satisfaction, happiness, peace, high vibrations with which they resonate. For a good audition, the teacher must select songs from the musical creation appropriate to the age of the children so these can understand it, be in connection with the theme proposed for the lesson and have a major effect in what he wants to present. Thus, we can witness the imprinting in the child's soul of the educational and aesthetic values for a thorough progress of educators (Sabina Vidulin, Valnea Žauhar & Marlena Plavšić,2022). In the realization of this moment, the musical audition consists of three stages: preparing the students for the musical moment, the actual audition, the re-audition, as the case may be. Each stage must follow certain essential steps for the audible message to be received and understood by the student.

The next musical activity is the study of an instrument. Learning at blockfleets is very easy and produces benefits for both parties involved in the educational act. There is also a manual for the use of this tool (Gerasim, Mariana, 2014). Studying an instrument, as research has already said for many years, improves memory, increases the ability to concentrate, and through exercise, perseverance and willpower are trained. Studying an instrument relieves the individual from stress and is a remedy for children with dyslexia and autism. In some schools in Romania there are also small whistle assemblies with children from the primary school, where teachers understood that art becomes a support in the interdisciplinary development of the other disciplines they teach.

Body percussion is an important activity in music classes, it is the art by which we strike the body to produce different types of sounds for certain purposes: educational, therapeutic, anthropological and social.

The musicogram is a new strategy to listen to a musical audition (Homone, 2014). The musicogram is a method by which students actively listen to music, and the auditory element, in this concept, is complemented by images or certain symbols. Through

this concept, children develop their creativity, abstract, intuitive thinking, used in other disciplines, and as a mode of exposure, the musicogram is a new way of relating, reporting and communication for the development of emotional intelligence, artistic sense, imagination and a creative spirit.

Eurythmia is an art that aims to combine the art of speech, music and theater through the expression of movement. The use of these elements, exercises, techniques for combining and developing education through music will bring many benefits to children: balance in movement, coordination of the body with the elements of singing, maintenance of a very good balance between body expression and the specific of the musical piece. Simplicity develops through movement. The ability to focus attention becomes very good, and the expressiveness of the word will be rendered differently by children who practice this method. An important book where this concept is presented at length is also the *Therapeutic Eurythmy for children*, by Anne-Maidlein Vogel, published in 2007.

Playing music is an essential method in music lessons. Due to their beneficial effect, the games have gone beyond the pedagogical sphere and are used with interest by psychologists, therapists and educators. In music, games can be based on songs, instrumental pieces, certain exercises, and musical listening. Also, there are melodic, rhythmic games with movement for acquiring elements of expression, harmonics, polyphonic for vocal technique, etc. As a benefit, musical play reduces shyness, forms the team spirit, homogenizes the group and dynamizes activities (Vasile, 2004).

In the digital age, technological development serves the pedagogy that we need to apply to the classroom. Ruben Puentedura has developed the SAMR model, through which teachers can use technology in the teaching-learning-assessment process in the classroom, and students are more comfortable and beneficial to the new approach. Ruben Puentedura introduced Bloom's taxonomy around the circle for using digital applications and organized them according to cognitive domains. (Ruben, R., Puentedura, 2010). Solfy is a musical program for children, through which solfegiation can be practiced for the teacher to train the ear and develop his ability and skills to play in the classroom. It is also available in Romanian and is free of charge. For more

information and login, please go to: https://www.4solfy.com/solfy_home/ (Koren, 2019).

3. Research methodology

3.1. Design of research

This paper proposes a research that presents the results of the data through a quantitative investigative design as well. Quantitative research, based on the use of the online questionnaire of the investigational sample, is objective, allowing the collection of empirical, measurable, conclusive data that establish a link between cause and effect of two variables through the use of mathematical and statistical calculations. The research aims to answer the following questions:

- What if the teachers think they have the skills to teach music?
- What are the most common musical activities performed in music classes?
- Where do you get your teaching materials for teaching music?
- How often the County School Inspectorate organizes activities to improve teachers for teaching music?

3.2. Participants.

In the following table are presented data on the population addressed and certain relevant information about respondents:

Table 1. Demographic data about the participants

Environment	Results
Urban	65,2%
Rural	34, 8%
Age	
< 25 years	3,4 %
Between 25-35 years	12, 4%
Between 36-45 years	36, 1%
Between 46-5 years	35, 7%
Over 55 ears	12, 4%
The seniority in the field	
1 year	2, 3%
Between 1-5 years	6, 4%
Between 5-10 years	6, 3%
Between 10-15 years	7, 6%
Between 15-20 years	11, 3%

Between 20-25 years	22, 5%
Over 25 years	43, 5%
The didactic degree	
Debutant	5,0 %
Full Registration	10, 4%
Didactical qualification level II	11, 6%
Didactical qualification level I	73, 0%
The last level of study	
High school education	6,5 %
The pedagogy of primary and preschool education (PIPP)	32, 4 %
License/ other domain	19, 8 %
Master	35, 8 %
Graduate	4, 6%
PhD	0, 9%

We specify that the respondents of the proposed study are female teachers (95.50%), which indicates that attractiveness for this profession must be improved among men.

3.3. Tools used in data collection

In the research carried out on the online questionnaire, 1.151 teachers from the primary school in Romania answered. The items of the questionnaire are taken from a research that validated the psychometric properties of the investigative tools used (International Journal of Music Education, 2015), and the socio-demographic questions were introduced by me so that I could capture more specifically what I was looking to investigate.

The study, by Chinese authors Zuodoung Sun (teachers`College, Tonghua) and Bo Wah Leung (the Hong Kong Institute of Education), was published in 2014 in the International Journal of Music Education, with the title "A survey of Rural primary school music education in Northeastern China". The study measures the latest techniques of teaching music education in primary schools in the Tonghua region of China. The questionnaire we administered is made up of the following sections: introduction, demographic data (gender, school environment, age etc.) status, degree, level of studies completed), aspects of teaching music-specific subjects in the primary cycle taken from Appendix 1: *Questionnaire survey on the current State of school music education for teachers.*

3.4. The research procedure

The research procedure was online questioning. The questionnaire was conducted in Drive, on the West University of Timisoara platform, from the student address (daniel.milencovici94@e-uvt.ro), applying a virtual form through Google forms, as a free, easy to manage and fast means of data collection, regardless of the applied area in Romania. The online questionnaire was applied between 28.05 and 26.06.2021, and the dissemination of the questionnaire was made through posts on social platforms, on groups of interest of teachers in the country, through emails sent to the inspectors for the primary school in the country or preliminary telephone approaches. The necessary information about the proposed person, the issue addressed and the consent form for the respondents were attached in section I. The research data was analyzed with the help of the JASP program (version 0.14.1), being a quantitative analysis.

4. Research results

Before submitting the analysis data, it is important to know data related to the training of respondents in the music field. The largest share is the respondents who have a musical training in the pedagogical high school (58, 6%), students who are only graduates of PIPP (18%), where the methodology and didactics of music teaching are studied for a semester, that is one year at the Faculty of Psychology and Educational Sciences of Ovidius University, and at the Faculty of Social and Human Sciences of the University of Oradea (a more special case, having vocal training and conducted as an option). 12% do not have musical training or do not think they have, and 8, 3% have trained at private music schools, respectively 2.2% are graduates of faculty and 0.9% have completed a music high school.

We start by asking the number one question: **Do you think you have musical skills?** These skills are made up of the development of musical hearing, rhythmic and melodic sense, and the ability to sing.

Table 2. The analysis about the musical abilities of the participants

1. Do you think you have musical skills (musical hearing, rhythmical sense, melodic, ability to sing)?	**Frequency**	**Percent**
I have good musical skills	435	41.707
I have moderate musical skills	440	42.186

1. Do you think you have musical skills (musical hearing, rhythmical sense, melodic, ability to sing)?

	Frequency	Percent
I have modest musical skills	152	14.573
I have no musical skills	16	1.534
Missing	0	0.000
Total	1043	100.000

We can see from the table shown that only 42, 1% of the respondent teachers have very good musical skills, and 41, 7% have moderate musical skills. On a simple calculation, we can conclude that 83, 8% of respondents have musical skills that can be useful for conducting music classes at primary school. In order to analyze the statistical information referring to the teaching degree that the teachers have in relation to musical skills, we will use the contiguence table.

Hypothesis 1: There are significant differences in the competence and self-taught skills to teach music at primary school, depending on the teaching degree.

Table 3. The musical abilities level of the participants as these are perceived

Teaching degree:

1. Do you think you have musical skills ?	Debutant	Definitely	Grade I	Grade II	Total
I have good musical skills	14	35	371	48	468
I have moderate musical skills	19	44	374	54	491
I have modest musical skills	17	37	88	29	171
I have no musical skills	8	4	7	2	21
Total	58	120	840	133	1151

	Value	df	p
X^2	109.752	9	< .001
N	1151		

The present hypothesis is confirmed, because the meaning threshold is < .001, which indicates that in this case, depending on the teaching degree, the teachers appreciate that they have musical skills. We can see from the table that very good and moderate musical skills are in a large proportion in teachers with the first degree

Next question: **What are the most common musical activities performed in music classes?**

With this question we want to highlight what are the most often performed activities during the music classes at the primary school. To this question, the survey respondents were able to choose several options from the ones listed below:

Table 4. Developed musical activities

Nr	Musical activities	Percent	Numer of respondents
1.	We sing individually and in the same voice	89, 8%	1034
2.	Musical auditions	89 %	1024
3.	Musical games	79, 5%	915
4.	Dance in combination with musical exercises	68%	783
5.	Intonation exercises for hearing development	64, 2%	739
6.	Integrated activities	60, 2%	693
7.	Interdisciplinary activities	48, 8%	562
8.	We use digital music applications	48%	553
9.	Musical improvisations	41, 4%	476
10.	Solfegy and musical dictation	28, 5%	328
11.	Eurythmy	18, 4%	212

12.	I was playing a musical instrument	11, 9%	37

Looking at the above percentages, we can see that the top three activities that the respondent teachers use in the classroom are: individual and single-voice singing, 89, 8%, musical audits 89% and musical games 79, 5%. These activities are among the most important in the literature, but for the training of teachers and their training are the most accessible for classroom achievement. Usually, primary school teachers prepare school-to-class celebrations where they put students to sing either individually or collectively with a single voice. In this sense, there are many songs from cartoons or children's age that are found on YouTube and are on one voice, precisely to be accessible for use in class. Music listening is important and must be active. It is easy to use in music classes, but it must have a precise purpose when it is used. Musical games are loved by children and can be engaging, with the aim of developing creativity and musical skills.

At the opposite end, the rarest activities used in class are the solfege and musical dictation (28, 5%), eurythmia (18, 4) and playing musical instrument (11, 9%). These activities require a high degree of musical knowledge from the teacher, a greater preparation for them to be carried out. Although these activities should not be separated as individual lessons, they can be integrated into the other activities. They have a high share in the development of children's musical skills: musical hearing, rhythmic, melodic feeling, high concentration.

Another activity that should not be missed during music classes or during extracurricular activity from the primary cycle is the choir. The choir includes almost all the activities listed in the table.

Regarding the choral activity, the respondents responded as follows:

How often do you chorus with your students?

Table 5. How often do you have choir classes with your students

Answer	Systematically	Sometimes	So and so	At certain events	Never
Percent	17, 1%	19, 3%	18, 7%	35, 3%	9, 6%

It can be seen that the highest percentage is in teachers who chorus only at certain events (35, 3%), followed by those who do occasionally (19.3%). Unfortunately, at this activity, we have low percentages, which requires special research to see the reasons why teachers do not choir.

In order to carry out the activities in the classroom, the teacher must use certain teaching means to successfully use certain activities. That is why our study continues with a question about: **Where do you get your teaching materials for teaching music?**

Table 6. The use of the didactic materials used by the participants during the classes

	Teaching materials	Percent	Numer of respondents
1.	From YouTube	85, 8%	988
2.	Other platforms/sites/pages/articles	48, 6%	559
3.	From colleagues	27, 7%	319
4.	Various sites with resources (County School Inspectorates)	27, 3%	314
5.	I do it personally	24, 8%	286
6.	Edu Music platform	22, 8%	262
7.	Cantus Mundi Romania page	20, 5%	236
8.	From various blogs	15, 2%	175

As the table shows, we can see that 85, 8% of respondents use YouTube as the main teaching tool in their musical activities, other teachers use platforms and websites, and other teachers use teaching materials already made by their peers, in a ratio of 27, 7%. Only 24, 8% make their own teaching means for the musical activities they propose. We also draw attention from this result that training programs should be developed to help teachers to make their own teaching materials, which can have a greater impact on children in the classroom. Of course, YouTube is a great help along with many other educational software that can be used, but for other teaching materials, we believe that a personal footprint is needed.

The last question for this research: **How often does the County School Inspectorate/ teaching staff house organize teacher training activities for music**

teaching? In the table below we find the answer to this question.

Table 7. The organization of formations in the musical field by the County School Inspectorate/The Teachers" Training Centre

Answer	Once a semester	Once a year	Several times a year	Never
Percent	7%	24, 3%	9. 4%	59, 3%

One can see a sad reality related to the training in Romania in the musical field for teachers who teach disciplines in this area. The teachers said that 59, 3% of the institutions responsible for training have never organized training for the Music discipline. Only 9, 4% of respondents say they have participated in training several times a year. Of course, this study was conducted at the country level, only in some areas of Romania there were trainings, and those are few.

We hope that through this study we can attract the attention of the decision-makers who can propose training activities for teachers who teach music. A quality education in music can bring many benefits as we have seen in the theoretical foundation. Teachers need training on the musical activities they propose during classes.

5. Discussions

The research results related to the four questions I have followed in this research are a foundation for me to be able to pronounce myself in future research directions in the field in which I am specialized.

An idea that can give a different face to musical activities, would be that teachers who teach at the primary school to participate with the children in the lesson concerts organized by cultural institutions, to participate in the children's shows of the National Opera, to organize shows with their own children in which to involve their parents and to organize a choir of the class, because through the National Cantus Mundi Program in Romania, they can have a real support for the personal progress of their own children in the classroom.

The second essential idea is that teachers who do not have the necessary musical skills for music classes, ask for the help of music teachers in the schools where they teach, and at school level seek professional training solutions for students to benefit from valuable musical activities. Even if the County School Inspectorates and the Teaching Houses do not propose

training programs for various reasons, I encourage teachers to send proposals to them and I am convinced that solutions can be found if there is a desire from teachers to progress. Also, a simple e-mail sent to Cantus Mundi Romania can be for the benefit of teachers, and the music experts within this program will respond positively to the need of those who ask for help.

I want this study to be a continuation of other specialized studies, which can present data through which our representatives in the bodies of power at national level, accept changes and recommendations for the good of children and not just look at the economic side through which these solutions can be supported.

The results of this study should be interpreted taking into account the limitations of the research approach. Even though the study population was 1,150 primary school teachers, I believe that for a comprehensive analysis it is also necessary to ask students from third-fourth year and music education teachers to observe certain aspects of how a collaboration between music teachers and primary school teachers could be proposed. As future research directions we propose the following: a training program for the development of musical skills according to the 21st century skills, a choral festival dedicated to the primary cycle, and a more detailed analysis through a more detailed international scientific article on the research issues exposed to other countries in Europe.

6. Conclusions

I believe that it is time for us to get involved in changing something in the context of the classes we teach, through proposals from the school unit where we operate, at the county level and even at the national level through educational policies. Musical activities organized during primary school classes or during extracurricular activities can be extended by participating in lesson concerts, by performances dedicated to children and provided by cultural institutions. Also, the introduction of musical educational tools in the activities is essential for the digital natives who are children of this century.

I propose that the music and movement class have the same status as the other disciplines, and this aspect belongs to us, the teachers, who must have the musical skills necessary for teaching a vocational discipline,

and if for various reasons these skills are missing, let each of us look for solutions to enrich these abilities.

As we form children today, this is what the next society will look like, and if we want to have a quality education system, the change must start from now, from the children in the primary school, for which to be an example.

So, in light of the above, each of us can reflect on how music classes should take place and what they need to do for these classes to have an impact on the development of the child.

Acknowledgments

Authors note:

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Digital Skills through the Lens of Gamified Activities in Language Mediation. The DIAL4U Erasmus+Project

Ioana Mudure-Iacob, Alexandra Cotoc, Veronica-Diana Micle, Ana Maria Hopârtean, Daniel Andronache, Raluca Pop

Digital Skills through the Lens of Gamified Activities in Language Mediation. The DIAL4U Erasmus+Project

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Abstract	
Keywords: digital tools; gamification; emergency remote teaching; foreign language teaching; engagement; participation; interactivity.	The current study intended to analyse the perception of foreign language higher education instructors and higher education students in Romania regarding the increase of their digital skills and the use of digital tools in the COVID-19 pandemic. Online instruction provided a multitude of challenges and opportunities for designing instructional content. Our respondents concluded that language learning games and gamified instruction represent valuable tools in reconfiguring the scenario within language classes. By exploring these opportunities that increase students' participation, interactivity and accessibility, the teaching and learning experience can be improved and adapted to more complex and ever-changing technological advances.

Zusammenfasung	
Schlüsselworte: digitale Tools; Gamification; Notfall-Fernunterricht; Fremdsprachenunterricht; Engagement; Partizipation; Interaktivität.	Die aktuelle Studie sollte die Wahrnehmung von fremdsprachigen Hochschullehrende und Studierende in Rumänien hinsichtlich der Steigerung ihrer digitalen Kompetenzen und der Nutzung digitaler Tools in der COVID-19-Pandemie analysieren. Der Online-Unterricht bot eine Vielzahl von Herausforderungen und Möglichkeiten für die Gestaltung von Unterrichtsinhalten. Die Befragten kamen zu dem Schluss, dass Sprachlernspiele und spielerischer Unterricht wertvolle Werkzeuge darstellen, um das Szenario innerhalb des Sprachunterrichts neu zu konfigurieren. Durch die Erforschung dieser Möglichkeiten, die die Beteiligung, Interaktivität und Zugänglichkeit der Lernende erhöhen, kann die Lehr- und Lernerfahrung verbessert und an komplexere und sich ständig ändernde technologische Fortschritte angepasst werden.

1. Introduction

In the digitised post-pandemic Higher education environment, an intricate nexus has been built between the use of digital tools and apps and foreign language instructions. The multitude of challenges and opportunities generated by online instruction resulted in hands-on experience to be further adopted and (re)adapted to hybrid and/or face-to-face instruction. More than exploring the affordances of digital tools and apps and customising them for language teaching, instructors engaged in a process of recycling and designing sustainable language resources. An increased awareness in terms of digital skills, digital pedagogical competence and methodological approaches was experienced by both teachers and students, which can be a prerequisite for building more flexible learning paths, a collage of formal and informal elements and better collaboration among instructors and learners.

The current paper dwells on results drawn from two questionnaires conducted within the DIAL4u (*Digital pedagogy to develop Autonomy, mediate and certify Lifewide and Lifelong Language Learning for (European) Universities*) Erasmus+ project, in which the eight partner universities design and test scenarios for online foreign language instruction. Specific aspects of the project relate to the development of language instructors' digital skills and pedagogy, the use of digital tools in language mediation, blending formal and non-formal learning environments in the recognition and validation of 21st century skills, as well as motivating learners to engage in autonomous lifewide learning. The questionnaires serving as basis for the analysis conducted in the current paper are part of the digital outputs designed and coordinated by the Babeș-Bolyai University team (in co-leadership with the Mikolo Romeris University in Lithuania). These questionnaires, addressing language instructors on the

one hand and undergraduate and graduate students on the other hand, were meant to provide a mirroring of respondents' perceptions of their digital skills and customisation of activities and resources using digital tools in relation to the foreign language instruction scenario throughout a critical timeline.

The aims of the current paper are manifold, stemming from instructors' and students' perception of how the development of digital skills was influenced by the abrupt transition from face-to-face language instruction to online teaching and learning. Perceptions of the use of gamified language activities in both teaching and learning are discussed in relation to various types of didactic activities facilitated by the use of digital tools. Another dimension to be covered in the study refers to analysing the extent to which the digital framework enhances engagement, participation, interactivity and collaboration. It further illustrates language instructors' choice regarding the use of digital resources extended from class activities to assessment (peer-assessment and gamified assessment).

The theoretical backbone covers aspects encompassing gamification and gamified assessment, student motivation, engagement and interactivity, building of transversal skills and the potential of digital framework to support recycling and sustainability of language tasks to be used in hybrid or face-to-face instruction, but also awareness of limitations and affordances/ transposition. The Methodology section covers the purpose of the study, participants and procedure, research instruments and hypotheses and is followed by the analysis and discussion of the results obtained in the two questionnaires. Preliminary conclusions and further directions of research are also explored in view of improving the language mediation process and teaching and learning experience towards a more digital native student-centred approach.

2. Theoretical framework

The major outcome of online instruction, supported by the trend to integrate and rely on new technologies in both professional and personal life, is the reconfiguration of Pedagogical Digital Competence (PDC) in the Romanian higher education context referring to language mediation. Embedding the expanded meanings of the key terms, competence, *digital* and *pedagogical,* this framework for teaching can be defined "as a new dimension in teachers' pedagogical skills and competences" (From, 2017, p.

43) and it emphasises the need for digital skills to become the backbone of foreign language instruction, practice and learning. In this line of thought, "PDC should be thus a prerequisite for hybrid and face-to-face teaching in language instruction [..] and an integrated skill that must not be limited to the teaching framework generated by the COVID-19 crisis situation" (Mudure-Iacob et al., 2022, p. 129).

With digital skills in the foreground, language mediation accounts for an integrative approach in which learners' up-to-date and continuously changing transferable skills enhance a more interactive, collaborative and creative practice of acquiring and improving macro- and micro- language skills. Laurillard (2008) refers to digital technologies' recurrent use of improving educational methods and signals the potential to contribute to a rethinking of educational models. If on behalf of language instructors, the use of digital skills can be a game-changer in terms of introducing and practising content and language skills, "students who master digital literacy are not just more prepared for online learning, coping better with the pandemic, or being more employable, but they also develop a consistent advantage by becoming lifelong learners and participative citizens." (Vodă et al. 2022, p. 25) In this scenario defined by the insertion of rapid technological advance in daily life (Artificial Intelligence, Online Social Network sites, (Live) Streaming platforms), the expansion of learning from on-site to online and diverse learning communities, putting digital skills to use in the language class (be it on-site, hybrid or online) becomes a crucial step in shaping the new identity and roles of instructors and students.

One valuable assignment triggered by the emergency remote teaching (ERT) generated by the COVID-19 pandemic refers to it being a catalyst for many language instructors in the sense that they could seize the opportunity to evaluate their proper implementation of ERT. More than just reflecting on the success of such an endeavour, as suggested by Hodges et al. (2020), our contention is that language instructors are required in fact to ensure qualitative and continuous instruction centred on building digital skills along the process, not only throughout the ERT timeline, but even more so in the post-pandemic context.

"With brains wired for games, the expectations and needs that [...] learners have can be answered in

the manner of designing compatible learning outcomes, namely, using language as a communication tool for networking and for mimicking real-life and workplace contexts". (Mudure-Iacob, 2021, p. 77). In response to these tailored needs analysis to cater to the learning requirements that *digital natives* have (Prensky 2001), two dimensions need to be taken into consideration, namely *gamification* and *game-based learning* as facilitating elements in the process of introducing and practising language content in the framework of PDC. Both of these dimensions entail the pedagogical and creative use of digital skills in selecting, customising, recycling or designing OERs provided by learning apps and tools.

Werbach and Hunter (2012) conceptualise *gamification* starting from the idea that its main principles originate in implementing game design techniques in non-game contexts, thus inserting game elements in educational scenarios and "enhancing services with (motivational) affordances in order to invoke gameful experiences and further behavioral outcomes" (Koivisto et al., 2014, p. 3027). Gamification in language learning involves primarily using the target language while performing activities and tasks as a second aim and focuses on creating a complex learning environment to support students in their educational path. Figueroa (2015) links gamification to educational objectives and the subsequent stages of learning that students need to complete. "These educational objectives will be seen by the learner as challenges to be accomplished in order to move from one stage to the other. At the end the challenge and moving from one stage to the other becomes part of the learning outcome" (Figueroa, 2015, p. 43). *Digital Escape Rooms* (which can be designed using platforms and tools such as OneNote, Google forms, Genial.ly, Minecraft) can be one example of how gamification can be embedded in language instruction sequences, with the added-value of introducing content, topic-based narratives along different tasks that require the use of integrated micro- and macro-skills.

Caponeto, Earp and Ott (2014) refer to *Game Based Learning (GBL)* as the use of games for instructional goals and many researchers emphasise the game elements in GBL together with their implicit benefits for the students. Among these game elements, Vandercruysse, Vandewaetere, Clarebout (2012), compile the following game items: fun and enjoyability, rules, goals and objectives, interactive/interaction, outcomes and feedback, problem solving/ competition/challenge, representation/ story/ fantasy/context. These elements trigger various benefits for the learners, stemming from classroom-related dimensions (motivation, interactivity) to game-mirroring dimensions (creativity, entertainment, and enthusiasm). Other specific characteristics of GBL include badges, immediate feedback and the display of students' performance on a leaderboard, which can be motivational incentives for players on the one hand, and, resourceful indicators of students' progress for language instructors, on the other hand, ensuring formative assessment. *Kahoot!,* Quizizz and *Padlet* are examples of game-based learning platforms and apps, with the potential of enhancing class participation and engagement, interactivity, and facilitating content understanding in the language classroom.

The affordances generated by the integration of gamification and game-based learning in the language classroom and the inherent stimulation to put to use digital skills in language mediation allow for an expansion beyond the online instruction scenario to encompass also the sustainability of tasks and activities in on-site and hybrid instruction. An analysis of how such dimensions affect and influence language instruction would confirm the stringent need to bring digital skills into a more dynamic, occasionally gamification-infused and PDC-focussed language mediation framework in order to align the language classroom to the current skills required both by the academic environment and the workplace.

3. Methodology

3.1 Purpose of the study

The aim of the current study is to explore and compare the attitudes of Romanian Higher Education foreign language instructors and language learners towards the manner in which the perceived increase of digital skills influenced their design of instructional language content and interactional pattern by using language learning tools and apps. Another focus is on observing and analysing the integration of gamification and game-based learning in language mediation, as well the inherent impact and benefits upon participation, engagement and interactivity.

3.2. Participants and Procedure

A total of 104 teachers and 150 students were involved in the study.

38.5% of the teachers were 41–50 years old, 33.7% were 31–40, 19.2% were 20–30, 7.7% were 51–60, and 1% were beyond 60. Regarding their teaching experience, 22.1% of them had 21–25 years, 17.3% had 16–20, 17.3% had 11–15 years, 15.4% had 6–10 years, 19.2% had 26–30 years, 2.9% had 26–30 years, 3.8% had 31–35 years, and 1.9% had more than 35 years. 12.5% of the teachers were pursuing their PhDs, 27.9% had master's degrees, and 9.6% had bachelor's degrees. 50% of the teachers held PhDs. Digital literacy was rated as advanced by 61.5%, intermediate by 31.7%, and expert by 6.7%.

96.7 percent of the students were pursuing bachelor's degrees, 2% were pursuing master's degrees, and 1.3% were pursuing doctoral degrees. While 5.3% studied French, 2.7% studied German, 3.4% studied Hungarian, 1.3% studied Italian, 1.3% studied Spanish, 5.3% studied Romanian, and 2.7% studied other languages, 78% studied English as their primary foreign language. Language proficiency was rated as advanced by 38% of respondents, upper-intermediate by 24.7%, intermediate by 18%, proficient by 12%, elementary by 4.7%, and beginning by 2.7%. Digital skill levels were rated as advanced by 60% of respondents, intermediate by 28%, expert by 9.3%, elementary by 2%, and beginner by 0.7%.

Regarding the research procedure, the study used two questionnaires (one for teachers and one for students) to collect both quantitative and qualitative data using Google forms and targeted the timeframe spring 2020- autumn 2021. The year 2020 constituted the moment of rapid transition to exclusively online teaching due to the lockdown and the teaching format was maintained, depending on educational institution for the entire spring semester, in particular cases, continuing a hybrid pattern until the spring semester 2022. By 2021 teachers had acquired a certain degree of experience in online instruction, having explored various digital tools and platforms in the language mediation process. Participation was voluntary, personal data was kept confidential and the participants granted their informed consent.

3.3. Research Instruments

The teacher survey had 56 questions in total, whereas the student questionnaire consisted of 48 items, but the current study included a set of questions from two sections in the questionnaire, namely Digital platforms/apps and Digital Pedagogy. We determined that Cronbach's Alpha =.85, which indicates that the survey has an internal consistency of 0.85. As a result, while considering the value of Cronbach's Alpha, our study instrument is pertinent and reliable.

The quantitative data obtained were statistically analysed using Jamovi® software, version 2.3.21, and since the research instrument that we used is not standardised, we used a cut-off point of -1/+1 mean standard deviation for setting the cut-off points. The qualitative data were processed using content analysis.

3.4. Research hypotheses

Our research examined the following hypotheses:

1. There is a significant increase in and a strong influence between the development of HE instructors and students' digital skills along the online teaching framework and, as a result, a growing interest in instructors' and students' willingness to use the interactive features of apps and tools in the instructional process.

2. Gamification of language activities is perceived to have a positive influence on class engagement, participation, and interactivity.

4. Results and Discussion of Results

The analysis covers different sections of the questionnaire, aligning findings with the research hypotheses, and tries to demonstrate the connection between the development of digital skills for HE language instructors and students alike, as well the outcome of this nexus. A distinct dimension to be discussed is the process of making language classes more interactive, engaging, and participative by means of gamification, at the same time highlighting the limited use of gamification as a framework for particular activities, including assessment.

Related to the respondents' perception of their development of digital skills in the particular timeframe, the aim was to observe the manner in which a potential increase in instructors' digital skills could influence students' acquisition of digital skills and the willingness of both categories to integrate apps and tools in the teaching and learning scenarios. Considering the significant difference in the level of digital skills at the beginning of the pandemic and the questionnaire completion timestamp as seen from the instructors' answers to questions *Q9. How do you assess your digital skills at the beginning of the*

pandemic; Q10. How do you assess your digital skills now? (see Mudure-Iacob, Cotoc, Hopartean, Micle, Andronache, 2022) one preliminary observation is that "the pandemic positively influenced the development of language instructors' digital skills, due to the fact that they had to use digital platforms and apps" (Idem, p. 134).

By relating the answers obtained with students' responses to the same set of questions, in both cases of responding samples we noticed that the respondents perceived an increase in their digital skills. However, despite the perceived increase in digital skills for both instructors and students, no statistical relationship was established between the two categories, indicating that the two samples did not influence each other (See Table 1 below). Moreover, a significant difference was perceived between the level of digital skills at the beginning of the pandemic and the questionnaire completion timestamp for both instructors and students, especially for those who already had a certain level of digital skills. Consequently, the higher the level of perceived digital skills before the pandemic, the higher the level of perceived digital skills as indicated upon completion ($r = 0.65$, $p < 0.05$, for students, and respectively $r = 0.42$, $p < 0.05$ for instructors).

Table 1. Digital skills correlation matrix

Correlation Matrix

		Digital Skills Beginning Pandemic (Students)	Digital Skills After Pandemic (Students)	Digital Skills Beginning Pandemic (Teachers)	Digital Skills After Pandemic (Teachers)
Digital Skills Beginning Pandemic (Students)	Pearson's r	—			
	p-value	—			
Digital Skills After Pandemic (Students)	Pearson's r	0.653 ***	—		
	p-value	< .001	—		
Digital Skills Beginning Pandemic (Teachers)	Pearson's r	0.015	-0.025	—	
	p-value	0.861	0.769	—	
Digital Skills After Pandemic (Teachers)	Pearson's r	0.009	-0.030	0.428 ***	—
	p-value	0.918	0.722	< .001	—

Note. * $p < .05$, ** $p < .01$, *** $p < .001$

Another noteworthy observation in this respect is that, although no significant difference between the level of digital skills in the case of students and instructors was seen before the pandemic (MD =-.03, t =_.34, p >.05), the completion timestamp indicated a different reality, namely that instructors perceived a significant increase in their digital skills in comparison to students' perceived digital savviness (MD = -.18, t = 3.24, p <.05) (see Figure 1 below).

Table 2. Comparison between students and instructors' perceived increase in digital skills

		Statistic	df	p	Mean difference
Digital skills beginning pandemic	Student's t	-0.345 [a]	451	0.730	-0.0339
Digital skills after pandemic	Student's t	-3.244 [a]	451	0.001	-0.1873

[a] Levene's test is significant ($p < .05$), suggesting a violation of the assumption of equal variances

Figure 1. Comparison between students and instructors' perceived increase in digital skills beginning and after pandemic.
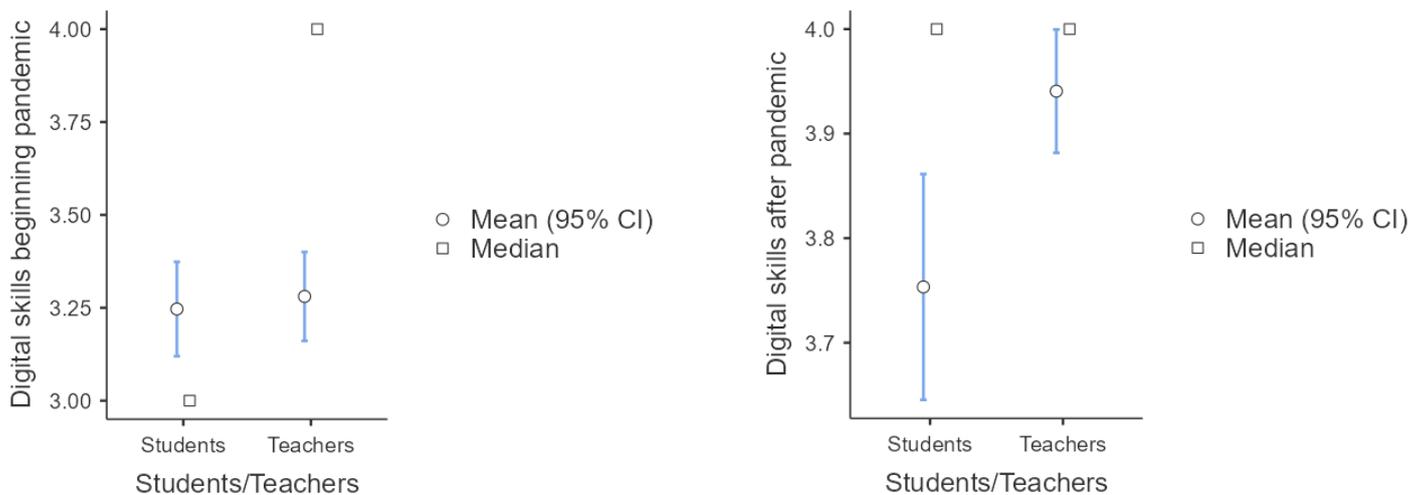
The analysis clearly show that instructors perceived a staggering increase in their level of digital skills, which can be accounted for by the active roles and decisive factor status that instructors had along the online educational process. By having to design and adapt teaching resources to an online format, they were guided by an intrinsic motivation and stringent need to upgrade their digital skills in order to accommodate new learning paths. Even if students were also required to adapt and acquire new skills, they did this under the guidance and support of their instructors, which explains this strongly visible line of progress.

As both students and instructors perceived an increased level of digital savviness, our analysis also focused on investigating the willingness to further use and explore interactive apps and tools in the instructional process, therefore putting to test these digital acquisitions. If the beginning of the pandemic generated online instruction format was marked by the discovery of a plethora of tools and apps to be used in language teaching, the next step was to challenge language instructors to test, select, and customise various apps in order to enhance interactivity, support 21st-century skills acquisition and to match the apps and tools with students' technical equipment which might not include particular affordances.

When asked about the students' preference for the hardware/device they use in online learning (*11. Which hardware or type of device would you most like to use for an online learning tool?*), the majority of the respondents (96) indicated personal computers/laptops as the most frequently used type of hardware, 43 respondents opted for smartphones as a tool used during online classes, whereas only 11 students chose the tablet. Even if most smartphones allow easy and quick access to a variety of apps, it may be more difficult for students to handle a synchronous learning session, solve tasks via apps, and switch between video conferencing environments and individual/collaborative language practice activities. On the other hand, the language instructors were required to use a laptop or personal computer in order to initiate and design online teaching sessions, while at the same time providing access and coordinating activities on digital platforms, in gamified apps, and facilitating interactivity among learners.

Table 3. Comparison between students and instructors' interest in using interactive online language learning tools.

Independent Samples T-Test

		Statistic	df	p	Mean difference
Interest in using interactive online language learning tools	Student's t	11.0 [a]	449	< .001	1.25

Note. H_a μ Students ≠ μ Teachers

[a] Levene's test is significant (p < .05), suggesting a violation of the assumption of equal variances

While there is a growing interest in both instructors' and students' willingness to use apps and tools in the instructional process, it is the former who is an active designer, facilitator, feedback giver, and in the position of always monitoring the use of the app throughout the teaching sequence. By contrast, students are beneficiaries of this active role and, while enjoying the interactive features, they do not bear the complex responsibility of designing and coordinating the app-facilitated activities.

Figure 2. Comparison between students and instructors' interest in using interactive online language learning tools.

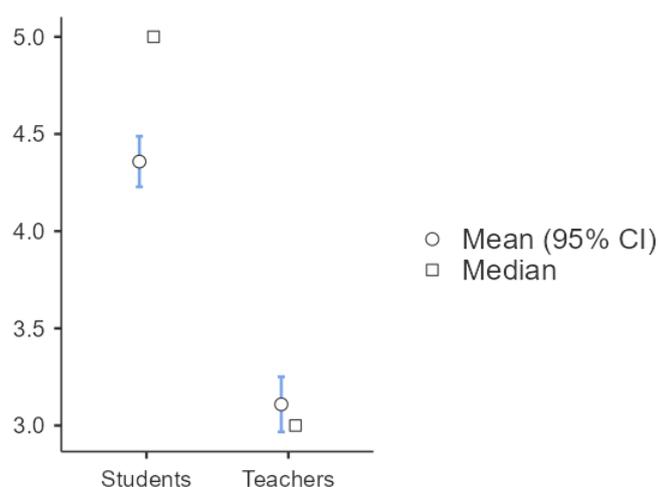A further focus of our study is to evaluate the influence that gamification of language activities may have on class engagement, participation, and interactivity. Regarding the selection of gamified apps to enhance individual and collaborative language learning (Q*24 from both teachers' and students' questionnaire: What game-based/ gamified apps and platforms are suitable for enhancing language learning?*), the respondents' answers indicate clear preferences for Google forms (63 instructors and 96 students), Kahoot (52 instructors and 92 students) and Quizizz (42 instructors and 58 students). Minecraft (5 instructors and 9 students), iCivics (5 instructors and 0 students) and Onenote (16 instructors and 12 students) were selected among the last by both groups of respondents. While Google forms, Kahoot, and Quizizz appear to be the most popular apps (see also Mudure et al., 2023), it must be noted that such apps are only game-based apps (find literature to support this idea), being designed to contain elements that emulate games (gaining points, earning badges, podium). Most of such quizzes were used to practise topic-based vocabulary, grammar, reading comprehension, and listening skills and were often recycled from the existing database at times missing

customised features. The major affordances of these apps are that they enhance interactivity (students can compete in teams, they can also collaboratively create new activities using these apps), support engagement (an appealing and fun method of revising new vocabulary and grammar structures both synchronously and asynchronously) and participation (the reward systems can trigger active attendance on behalf of students).

The apps and platforms least indicated to generate interactivity, engagement, and participation (Minecraft, iCivics Games and OneNote) are different from the game-based apps indicated above in multiple senses. Firstly, they are gamification platforms, requiring instructors and students to take on the role of content creators. Secondly, they engage students in a more complex learning journey in which they don't just practise isolated micro-items and tasks, but rather complete a multi-dimensional learning pathway which embeds micro-language items (vocabulary, grammar) and macro-language skills (reading, listening, speaking, writing) along with transferable skills (critical thinking, digital skills, collaboration, problem-solving, etc.). Thirdly, these gamifying apps are based on different creative scenarios, which shift students' focus from the classroom environment to an alternative learning framework, enabling them to achieve milestones by using and putting to test all acquired language skills.

We can argue that the respondents' options are not surprising given the extent of selection, preparation and design required in the case of gamifying apps. Furthermore, integrating apps such as OneNote, iCivics or Minecraft to facilitate language instruction implies intermediate to advanced digital literacy on the part of language instructors, even if for students using such apps and platforms could be more intuitive and user-friendly. One notable remark would be that both game-based apps and gamified scenarios create an alternative informal learning environment in which students focus more on authentic tasks in which they practise language skills without acknowledging and being under the pressure of a formal pedagogical framework embedded in the instructional process.

With reference to identifying likes and dislikes that students identified related to the use of online learning tools and games (*Q14: What do you like most about the language learning games/online language learning tools that you know? and Q15: What do you like least?*) we sketch an overview of their responses

showcased in the word clouds from the two figures below (3 and 4).

The recurrent key words regarding positive aspects indicated by students as seen in Figure 3 below, *fun, creative, interactive, competition, interaction, easy to use, motivation, engagement, easy access,* confirm the previous premise that the use of digital tools and apps mimic an authentic informal learning environment. Without recognising and being constrained by a formal instructional process, students seize the opportunities created by gamified learning and thus perform in a more competitive, engaging, interactive context, learning together with their peers. A significant gain in terms of such digital tool usability in language instruction is that learners perceive the entire process as being *fun* and *interactive,* which clearly makes the language acquisition itinerary a more genuine endeavour.

Figure 3. Positive aspects of online learning tools and games: students' perspective

As regards the negative aspects indicated by students in Figure 4 below, the prevalent key words indicate that the use of digital tools and apps in language instruction can be perceived as *tiresome, boring, lacking spontaneity, demotivating, repetitive or too competitive*. Other students referred to *time constraints, tedious signing up process* and the *occurrence of pop-up ads* along the gamified instruction to be weaknesses worth mentioning in this respect. We reckon that the first category of indicated drawbacks accounts for a lack of alignment with digital pedagogy on behalf of instructors, as the tendency (signalled by students as well) was to overuse some apps (many students mention at this point Kahoot!, Quizizz, Padlet in particular) and to miss on customising quiz content to learners' needs and levels. The second category of negative aspects

mentioned by respondents refers to the constraints of the app/ game (signing up process) and the fact that they are Internet products (pop-up ads). To this we interpret the *time constraints* weakness mentioned by students as a subjective perception, seeing that gamified apps all integrate timing as a core element that simulates gaming and stimulates competition. On the other hand, it is understandable that some students feel nervous/ anxious under the pressure of time and competition.

Figure 4. Negative aspects of online learning tools and games: students' perspective

When asked about the features that make a language learning game/ tool attractive (*Q16: What is most important to make a language learning game/an online language learning tool attractive to you?*) students provided answers that were categorised in five main dimensions: game dynamics, the pedagogical dimension, accessibility, graphics, and feedback, as shown in Figure 5 below. In the *game dynamics* dimension, respondents (the majority having indicated a wide array of such features) referred to intuitiveness, playfulness, interactivity, fun, competition and entertainment. These answers show that the usual features of games are maintained along the instructional scope, supporting participation and motivating students to learn while at the same time having fun. Another dimension identified from the answers was the *pedagogical dimension*, indicated by many respondents who appreciated that language learning games/tools should be used in a consistent manner and should provide a balance between instructional goals and gamified practice. Likewise, they referred to the apps and tools' potential to facilitate content comprehension, direct instruction, introduce new themes and ideas, and can provide genuine learning experiences.

The *accessibility dimension* was ensured by the possibility to easily access content also offline and to download it and the diversity of open-educational resources (OER). These answers point to the fact that there is a growing tendency towards openness and collaboration in the educational process and that easy access to tailored resources both synchronously and asynchronously is an appreciated asset for students. Another feature that was well represented in students' answers referred to the *graphics* of the learning game/learning tool, students identifying the design of the app and the visual aspect of the interface as prerequisites of using such games in language learning. This can be explained in light of students' preference for daily use of devices and their digital native approach to communication, which calls for a particular reconfiguration of teaching needs in the framework of language mediation. One final element identified by respondents as an attractive feature of language learning games was the direct, prompt, complex and punctual *feedback*. This is also a confirmation of the digital native status that most students have, in that they expect immediate and customised response to their completed tasks, activities and performance. An added-value of this kind of feedback is that it has a formative and ipsative nature allowing the teacher to observe and support learners' needs in real time, as well as allowing students to use the leaderboards generated by language games as an incentive to improve micro- and macro-skills.

Figure 5. Language learning game: attractive features
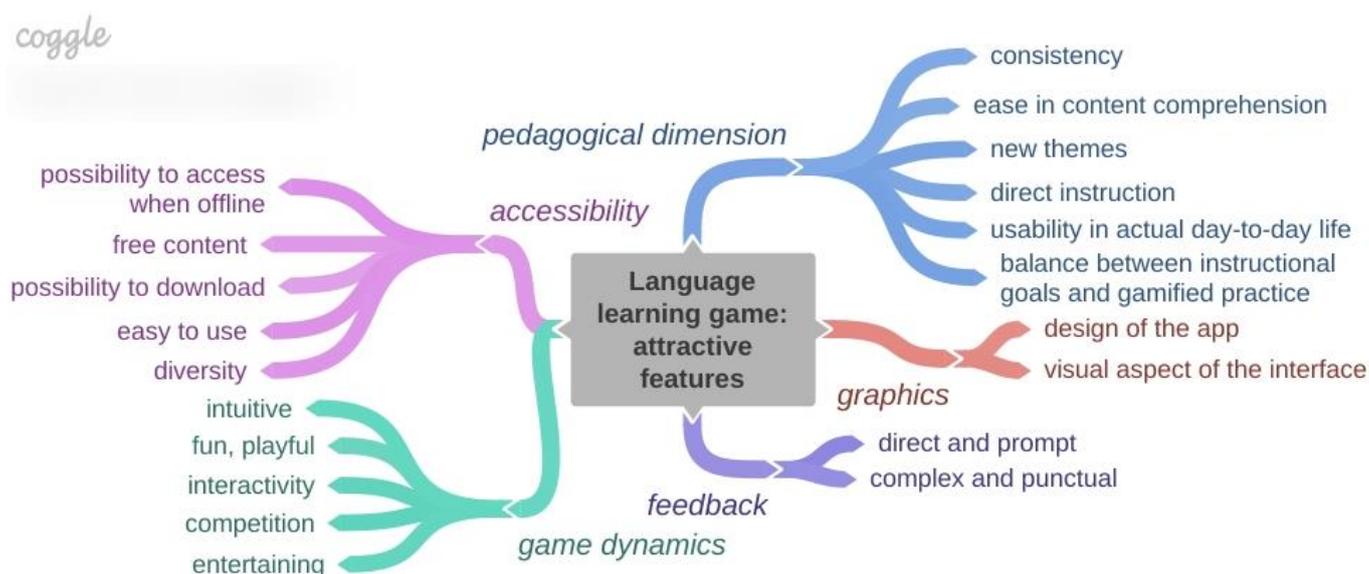
The two pillars of our analysis represented by two hypotheses were centred on the nexus between language mediation actors with a special focus on their perceived increase in digital skills, the way such skills are transferred to language instruction and the impact that gamification of language activities may have on language learners. The first hypothesis (*1. There is a significant increase in and a strong influence between the development of HE instructors and students' digital skills along the online teaching framework and, as a result, a growing interest in instructors' and students' willingness to use the interactive features of apps and tools in the instructional process.*) was partially validated, because the data shown indicates both instructors and students perceived a significant increase in digital skills (the former reporting a higher increase as compared to the latter), but there was no significant influence of one category over the other. In what concerns the validation of the second hypothesis *(2. Gamification of language activities has a positive influence on class engagement, participation and interactivity.*), our research confirms that by using language learning tools and apps with gamified elements, regardless of the type of content, students have shown that engagement, participation and interactivity are well-appreciated features of gamified language activities.

5. Conclusions and Further Directions

The current study focussed on analysing the perception of foreign language HE instructors and HE students in Romania regarding the increase of digital skills as triggered by the ERT and the practical use of these digital skills in designing instructional content

and in exploring efficient educational methods for acquiring and improving language skills. Beyond the scope of using digital skills to mediate language content and tasks by means of digital tools and gamified/ game-based learning in ERT instruction, the purpose of this study is to highlight the potential that such apps, tools and gamification may have for reconfiguring the scenario of language classes in accordance to the current needs and interests of students. Another contribution provided by this research paper is that the results analysed in the study can constitute a valuable experience towards improving both the teaching and learning approach in the context of complex and ever-changing technological advances.

From the analysis of our respondents' answers, academic language instruction and learning are situated at an exploratory stage in terms of integrating and further developing digital skills for language mediation. With ERT functioning as a start button to making language mediation actors more aware of the benefits of digital tools, apps, and gamification/GBL and having identified a growing interest in using newly improved digital skills, the scope is to signal the need to implement these elements in mutually building more dynamic and interactive language instruction sessions.

Given the attractive features of language learning games as identified by our respondents (accessibility, graphics, feedback, game dynamics, pedagogical dimension) foster engagement, participation, and interactivity, these constitute valuable opportunities to be transferred into class assets. A niche segment that is still insufficiently explored in foreign language instruction in Romania consists of the insertion of gamification/ game-based learning as sustainable and creative resources, which might suggest that there is a gap between the immense potential of transforming the foreign language class and the actual on-site language mediation reality.

Future research might tap into embedding digital tools, gamification/ GBL into foreign language sessions by empowering learners to use their digital skills and develop alternative learning strategies in order to achieve more autonomy. By sharing autonomy in the language mediation process, instructors and learners can negotiate and mediate their in and out of class roles, with signalled benefits for both parties: transferable skills, autonomy and empowerment, motivation for learners and collaboration,

sustainability and lifewide and lifelong learning potential for teachers.

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The Role of Metacognitive and Politeness Strategies in Online Foreign Language Instruction

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The Role of Metacognitive and Politeness Strategies in Online Foreign Language Instruction

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Abstract	
Keywords: higher education (HE); online/hybrid learning; metacognitive strategies; pragmatic politeness strategies; digital pedagogical framework.	This paper aims at providing an insight into the online/hybrid foreign language teaching and learning system in Romania. Drawing on the theoretical body of research of metacognitive and politeness representations within the field, the study further offers an analysis of how metacognition and politeness strategies are perceived by the main stakeholders of academic education (language learners and instructors). The focus is on describing specific aspects where the support metacognitive and politeness strategies enable a more responsible and engaging digital pedagogical framework that empowers learner autonomy and engagement. Emphasis is placed on highlighting context-ridden challenges observed in online/hybrid learning/teaching connected to various degrees of preparedness to deal with the dynamic frontal/online teaching shift and also on suggesting student-centred solutions. The obtained results of the study may inform subsequent developments of language mediation through the activation of digital cognition and social and emotional learning practices.

Zusammenfasung	
Schlüsselworte: Höhere Bildung; Online-/Hybrid-Lernen; metakognitive Strategien; pragmatische Höflichkeitsstrategien; digitaler pädagogischer Rahmen.	Dieser Beitrag soll einen Einblick in das Online-/Hybrid-Lehr- und Lernsystem für Fremdsprachen in Rumänien geben. Aufbauend auf der theoretischen Forschung zu metakognitiven und Höflichkeitsdarstellungen innerhalb des Fachgebiets bietet die Studie ferner eine Analyse, wie Metakognitions- und Höflichkeitsstrategien von den Hauptakteuren der akademischen Bildung (Sprachlernende und -lehrende) wahrgenommen werden. Der Schwerpunkt liegt auf der Beschreibung spezifischer Aspekte, bei denen die unterstützenden metakognitiven und Höflichkeitsstrategien einen verantwortungsvolleren und ansprechenderen digitalen pädagogischen Rahmen ermöglichen, der die Autonomie und das Engagement der Lernenden stärkt. Der Schwerpunkt liegt auf der Hervorhebung kontextabhängiger Herausforderungen, die beim Online-/Hybrid-Lernen/-Lehren beobachtet werden, verbunden mit verschiedenen Graden der Bereitschaft, mit der dynamischen Verschiebung des Frontal-/Online-Unterrichtens umzugehen, und auch auf dem Vorschlag von schülerzentrierten Lösungen. The obtained results of the study may inform subsequent developments of language mediation through the activation of digital cognition and social and emotional learning practices. Die erhaltenen Ergebnisse der Studie können spätere Entwicklungen der Sprachvermittlung durch die Aktivierung digitaler Kognition und sozialer und emotionaler Lernpraktiken beeinflussen.

1. Introduction

The shift from traditional, onsite to exclusively online, remote classes brought on by Covid in early March 2020 in Romania was reason for concern for both HE instructors and students. While some studies suggest that there is no significant impact on learning outcomes when switching from a traditional to an online learning environment (Johnson et al., 2000), there is still little research on how the entire pandemic related anxiety impacted language learning. Language learning is inherently a field highly dependent on direct communication that regulates communicative exchanges by contextually, socially and emotionally supporting interactants towards the execution of

outcomes. Meaning is negotiated through language mediation and development of language proficiency cannot happen outside the establishment of genuine communicative rapports. It is our contention that online teaching and learning can be effective as long as both teachers and learners understand that the lack of face-to-face communication and its in-real-time effects may be compensated by using certain autonomy enhancement strategies.

The aims of this paper are on the one hand to investigate the extent to which metacognitive strategies and manifestations of pragmatic politeness

are perceived as useful and effective by both HE language instructors and learners and to suggest a learner centred approach within a more caring digital pedagogical framework. In terms of metacognition, extensive research shows that metacognition improves learner autonomy and performance (Wenden, 1998; Raoofi et al., 2014, etc). In the context of both online and onsite learning, the paper aims to establish whether there is coherence between the teachers' and students' attitudes towards metacognitive strategies and whether teachers and students consider metacognitive strategies to be more useful in online rather than onsite settings. Additionally, pragmatic politeness strategies in language learning enable participants to engage in communicative exchanges by carefully considering their *face* wants and interactional needs and by mitigating collaboration through a mutually beneficial quid-pro-quo. Politeness is the intentional ingredient that gives contextualised and individualised flavour to language use as it fosters engagement and care. Drawing on Erving Goffman's (1967) concept of *face* and Brown & Levinson's politeness theory (1987), the study investigates applications of this complex phenomenon onto language learning/teaching. Moreover, the paper investigates the reasons for which instructors and students may not place enough emphasis on the informed use of metacognitive and politeness strategies.

Following a theoretical framework that encompasses both metacognitive and online politeness strategies, the paper analyses a selection of results coming from two mirrored questionnaires (one for teachers and one for students) designed and administered within the DIAL4u (*Digital pedagogy to develop Autonomy, mediate and certify Lifewide and Lifelong Language Learning for (European) Universities*) Erasmus+ project. The questionnaires address the respondents' perception regarding a multitude of aspects pertaining to digitalised language learning.

2. Theoretical framework

Metacognition, widely defined as cognition about cognition, was first theorised by Flavell, who distinguished between metacognitive knowledge and metacognitive processes (Flavell, 1979). While metacognitive knowledge refers to the knowledge that learners have about their cognitive abilities, metacognitive processes are about hands-on regulation of learning, through metacognitive strategies such as planning, monitoring and self-evaluation that can be used while addressing a task.

Since the 70s, a lot of progress has been made in the field of metacognition applied to language learning (Anderson, 1991; Cohen, 1998; Macaro, 2001; O'Malley and Chamot, 1990; Oxford, 2003; Wenden, 2002), the focus being on the importance of metacognition for learning in general and language learning in particular. Oxford's the Strategy Inventory for Language Learning (SILL) (Oxford, 1990) included metacognitive strategies, among cognitive strategies, memory strategies, compensatory strategies, affective strategies, and social strategies as the basis for strategic language learning.

Learners are generally recognized as more successful and effective if they can use metacognitive strategies, as they tend to plan their learning, apply monitoring strategies and revise after learning has been completed. (O'Malley & Chamot, 1990, p. 8). David Perkins (1992) distinguishes between students based on their metacognitive abilities and identifies four categories: tacit learners (students who lack metacognitive knowledge), aware learners (those who know something about the types of thinking used to generate ideas), strategic learners (those who can apply strategies to help them learn more effectively) and reflective learners (those who are strategic and can also reflect on their learning as it is happening). Thus, it becomes obvious that metacognitive strategies play a major role in language acquisition. Anderson (2003) argues that they help language learning progress at a faster rate, while Veenman et al (2005) show how metacognitive skilfulness is more relevant than intelligence as a predictor of learning performance. Most importantly however, metacognition has a significant positive impact on increasing autonomy.

The global lockdown during Covid increased the focus on online and remote learning, which meant that learners needed to assume even more responsibility for their own learning in order to manage and organise their learning without the continuous support from teachers. Metacognition becomes an essential asset in this context. Whether students returned onsite or stayed online, the entire teaching-learning paradigm has changed, as the shift to digital learning has become more pronounced after the pandemic. Several studies have shown that there is a positive correlation between the use of metacognitive strategies and online learning performance (Dumford & Miller, 2018; Broadbent & Poon, 2015; Goradia & Bugarcic, 2017). Learners

without self-confidence due to insufficient technical skills and possibly a lower level of language proficiency are at a disadvantage, but they may compensate by using metacognitive strategies. However, if learners have not been previously exposed to metacognitive strategies, it may be more difficult to acquire them in a remote setting, as they may not be able to self-regulate, co-regulate and may not have access to shared-regulation experiences (Hadwin et al., 2018). Unfortunately, university students appear to be lacking in terms of metacognitive knowledge and use of metacognitive strategies (Anthonysamy et al., 2020; Boser, 2018). Therefore, while it appears that metacognition is even more relevant in a remote learning setting, due to the virtual and often asynchronous nature of online learning, metacognitive strategies may be more difficult to teach than in a traditional setting. Learners seem to use metacognitive strategies differently in traditional and online scenarios (Broadbent & Poon, 2015).

Under the theoretical framework of this study, the second research focus relates to manifestations of pragmatic politeness at linguistic, discourse and engagement/relationship management level. Next, we will offer an overview of politeness research within the scope of this paper thus limiting politeness conceptualisations to three elements: importance of politeness theory and strategies in shaping pragmatic competence and mutual relationship management, the construct of (e)-face/self-image within the politeness framework, and the role of engagement as a major driver of contextually polite discourse and behaviours.

Brown & Levinson's politeness framework (1978, 1987) remains one fundamental source material that continues to be the starting point for a rich body of research within various fields such as linguistics, sociolinguistics, pragmatics, foreign language acquisition, oratory, economics and public relations, etc. In Brown and Levinson's view, politeness is universal and a highly rational phenomenon that marks an added effort interlocutors make in order to communicate and negotiate interactional goals. Politeness entails both linguistic and non-linguistic behaviour that is meant to mitigate the overall impact of Face Threatening Acts (FTAs) through the application of five different politeness strategies: the bald on-record strategy, the positive politeness strategy, the negative politeness strategy, the off-record strategy and the strategy to choose not to engage in any Face Threatening Acts (FTAs) (Brown

& Levinson, 1987). When engaged in communicative instances, interactants employ and tap into their use in order to maintain face and further encourage collaborative participation. Consequently, politeness "becomes a key means by which humans work out and maintain relationships." (Kádár & Haugh, 2013). Within the context of computer-mediated communication (CMC), politeness is not only an essential tool but rather one of the most advanced pragmatic competences that enable users to have an impact in an environment that has different coordinates as well as different dynamics where the screen becomes a third communicative party in need of maintenance and constant management as it intermediates the transmission of shared meaning and learning experience.

Foreign language instruction by definition encourages the equipment of learners with tools that support the use of language skills across fields and social, cultural or economic limitations. "Learning autonomy represents the main ingredient in empowering students with the necessary tools and strategies to continue learning in other settings, non-formal or informal ones" (Cotoc & Pop, 2022, p.119).

In online instruction politeness strategies become a tool that can mediate the transmission and interpretation of messages collaboratively towards gaining mutual benefits that enable discourse participants to express their views by negotiating and co-constructing meaning. Politeness does not exist outside the participants' willingness to have an impact that rests on acknowledgement and consideration of both/all parties' communicative needs and face wants. In a computer-mediated environment, there are challenges that occur regarding the smooth transmission and interpretation of messages especially in foreign language mediated instruction. Digital skills and competences must therefore include pragmatic politeness skills that confer a socially and emotionally engaging form to a content that is transmitted by paying attention to both the interactional instructional goals and to participants' needs for approval (*positive face*) and autonomy (*negative face*) (Brown & Levinson, 1987: 311).

The construct of face/self-image is crucial to understanding and effective use of pragmatic politeness in communication. Erving Goffman defines *face* as the "positive social value a person effectively claims for himself by the line others assume he has taken during a particular contact". (Goffman, 1967,

p.5). The more aware individuals become that e-face is profitable currency for empowered and impactful communication, the more likely it is for them to turn facework or face management into an interactional priority that generates competitive communicative advantages. Face is our self-image, our self-worth, hence one's ability to control, project and enhance it to its full potential leads to the development of digital pragmatic competence. "Politeness arises when face is "maintained", "saved" when otherwise (potentially) "threatened", or "enhanced", while impoliteness arises when face is "lost" or "threatened". (Haugh, 2013, p.20).

Online/hybrid language instruction in a post-Covid 19 context has begun to adapt to learners' newly emerged needs that are rooted in computer mediated communication realities. "In addition to having to adapt worksheets, textbooks and materials to suit the digital framework, language instructors also dealt with a recurrent lack of interest and disengagement from students, caused either by online fatigue or limited digital literacy skills." (Mudure-Iacob, 2022, p.7). Ineffective management of face projection in an academic environment is a source of anxiety and stress as such formal educational contexts demand the upheaval of high standards of conduct and intellectual performance. Anxiety is generated by the exposure to an online environment where nonverbal cues and stimuli do not always come across successfully and have to be substituted by strategy employment (metacognitive and politeness) in order to compensate for timely face-to-face communicative exchanges.

Consequently, there are different pedagogical needs to take into account on the part of educators and instructors within the HE environment: online well being and psychological safety, the design of academic content that is interactively negotiated as well as the formulation of guidelines that promote and viably sustain student wellbeing. The unprecedented development and influence of Social and Emotional Learning (SEL) feeds back into these realities that deserve attention and regulation. "Social and Emotional Learning represents a useful framework against whose backdrop foreign language instruction may occur as it regulates language production, language proficiency, emotional intelligence and intercultural competence development." (Mudure-Iacob et al., 2022, p.131). SEL has a certain urgency attached to its research within the domain of online/hybrid foreign language instruction as it has

become relevant fast: there is on the one hand heightened awareness connected to the need to focus on learners' mental health as pandemic contexts have re-formulated CMC academic education and, on the other hand, the issue of anxiety and performance related stress are connected directly to instructors' and learners' academic performance. The CASEL model of Social Emotional Learning stipulates that there are four major elements SEL encompasses. These elements are still being researched at various levels and are relevant to the development of a student-friendly learning framework that is both humane and caring: *self-awareness* (one's ability to understand one's emotions and values that may differ across national and cultural borders), *self-management* (one's ability to control one's emotions, thought patterns, attitudes and behaviour), *social awareness* (one's ability to display understanding, empathy and intellectual humility), *relationship skills* (one's ability to establish and engage in social relationships that are mutually beneficial), and *responsible decision making* (making informed choices on task based scenarios) (Adapted from The Collaborative for Academic, Social, and Emotional Learning CASEL). SEL is the process of developing one's ability to integrate thinking, feeling, and behaviour in order to achieve important goals in life (Zins, 2004). It impacts the interactants' ability to relate to academic content in an effective way by promoting enhanced motivation and student engagement.

To this end, changes have been made in recent years to language proficiency assessment criteria in the Common European Framework of References for Languages. Companion Volume with New Descriptors (2018). Among other important additions and claims, newly included changes acknowledge the difficulty language learners encounter when adapting their *perspective* to the other participant's mindset by accepting the fact that there may occur differences in the communicative quid-pro quo that can only broaden the scope and quality of discussion. Attention is also provided to the reality that on certain occasions, "people need a third person or a third space in order to achieve this" as "delicate situations, tensions or even disagreements" may occur in communicative exchanges that require collaboration. (Mediating communication CEFR-CV, 2018, p.114). Linguistic competence comprises various elements in need of attention: vocabulary range, grammatical resources, pronunciation, sociolinguistic appropriateness, pragmatic competence, pragmatic politeness and

interactive engagement. Foreign language instructors in CMC are agents of change, trailblazers in acknowledging the perils associated with online/hybrid interactions that deserve recognition, informed awareness, creative processing and knowledgeable interpretations of obtained research results into student/teacher support handbooks/resources as well as SEL guidelines.

When asked to list certain positive outcomes of online teaching in Romania, language instructors have-among other items- mentioned student autonomy, genuine student engagement as well as the fostering of a warmer, closer relationship between students and instructors. (Table 1 below provides a visual representation of some of the aspects that have been mentioned). This instructional accomplishment deserves research focus. It is our contention that interactional engagement is created and supported through the use of pragmatic politeness, the marked efforts to be a part of a communicative context and not outside/behind a screen as an isolated remote participant.

Figure. 1: Positive outcomes of online teaching in Romania. Teachers' perspective.
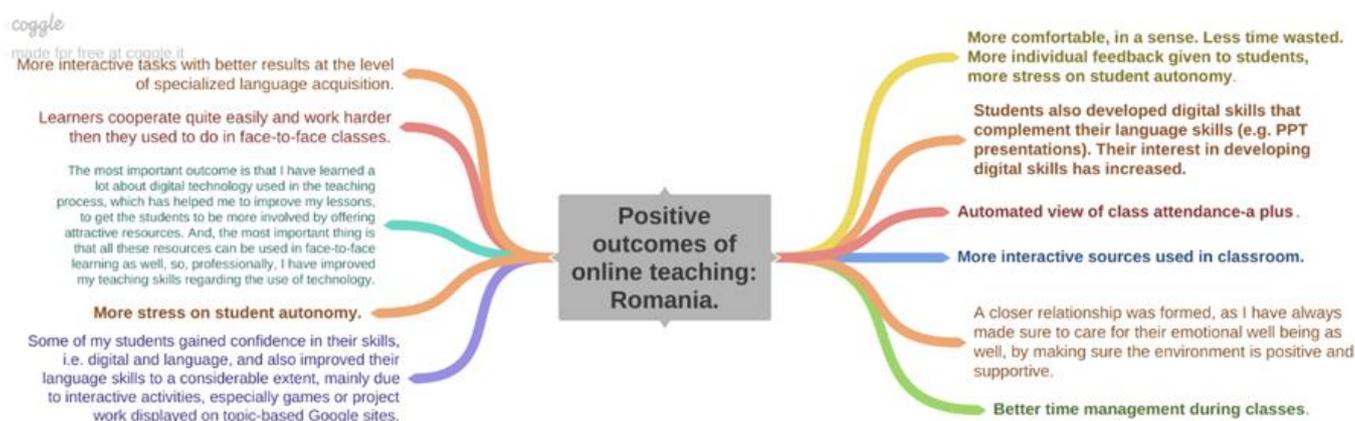
3. Research methodology

3.1. Purpose of the Study

The purpose of the study is to explore the attitudes of Romanian higher education foreign language instructors and students towards specific manifestations of metacognition and pragmatic politeness and to identify convergent and divergent patterns between these two groups. Another focus is to transfer our observations based on questionnaire analysis output into recommendations for an effective implementation of metacognitive/politeness strategies in online/hybrid language classes and to suggest integrating them in more supportive digital course designs and resources that foster student autonomy and genuine engagement.

3.2. Participants and Procedure

A total of 104 teachers and 150 students were involved in the study.

38.5% of the teachers were aged 41-50, 33.7% were 31-40, 19.2% were 20-30, 7.7% were 51-60 and 1% were over 60 years old. As for their teaching experience, 22.1% had 21-25 years of experience, 17.3% had 16-20, 17.3% - 11-15 years, 15.4% - 6-10

years, 19.2% - 26-30 years, 2.9% - 26-30 years, 3.8% 31-35 years, 1.9% - over 35 years of experience. 50% of the teachers had a PhD, 12.5% were PhD candidates, 27.9% had a master's degree and 9.6% had a Bachelor degree. 61.5% assessed their digital skills as advanced, 31.7% as intermediate and 6.7% as expert.

96.7% of the students were doing a bachelor's degree, 2% were Master's degree students and 1.3% were PhD students. 78% studied English as the main foreign language, while 5.3% studied French, 2.7% German, 3.4% Hungarian, 1.3% Italian, 1.3% Spanish, 5.3% Romanian and 2.7% other languages. 38% assessed their level of language competence as advanced, 24.7% as upper-intermediate, 18% as intermediate, 12% as proficient, 4.7% as elementary and 2.7% as beginner. In terms of digital skills, 60% assessed their level as advanced, 28% as intermediate, 9.3% as expert, 2% elementary and 0.7% as beginner.

Regarding the research procedure, the study used two questionnaires (one for teachers and one for students) to collect both quantitative and qualitative data via Google forms and targeted the timeframe spring 2020- autumn 2021.

In Romania this timespan was relevant as 2020 was the moment of sudden transition to exclusively online teaching due to the lockdown. By 2021 teachers had gained some experience in online instruction. Participation was voluntary, personal data was kept confidential and the participants granted their informed consent. The quantitative data obtained were statistically analysed using Jamovi software, version 2.3.21, and since the research instrument that we used is not standardised, we used a cut-off point of -1/+1 mean standard deviation for setting the cut-off points. The qualitative data were processed using content analysis.

3.3. Research Instruments

The questionnaire for teachers consisted of 56 items, out of which 4 (demographics)+4 (metacognition) + ...(politeness) were used for the purpose of the present study. The questionnaire for students consisted of 48 items, out of which 4+5+...(politeness) were used for this study. Some items used a 5-point Likert scale, where 1 represented strongly disagree and 5 strongly agree, but also as dichotomic and open questions. To identify the internal consistency of the survey, we have calculated Cronbach's Alpha = .85. Therefore, taking into consideration the value of Cronbach's Alpha, our research instrument is relevant and consistent.

3.4. Research Hypotheses

1. There is a similarity between the teachers' and students' attitudes towards metacognitive strategies, i.e., both categories (teachers and students) find them useful for language learning.

2. The reasons for teachers not encouraging the use of metacognitive strategies and for students not using them differ.

3. Both teachers and students consider metacognitive strategies to be useful in online settings more than in traditional classrooms.

4. Language instructors and learners acknowledge the existence of anxiety in online foreign language instruction.

5. The successful projection of a professional self-image/e-face in hybrid/online environments is perceived as difficult to accomplish.

6. Language instructors and learners are aware of how important student engagement is in online classes.

4. Results and Discussion

The results of our research study will be presented as follows: first, we will analyse the students' and teachers' interpretation of the provided answers related to metacognitive strategies by discussing the most relevant findings; secondly, we will then apply the same mirrored analysis *on three selected items* connected to manifestations of pragmatic politeness within the online/hybrid environment, consequently interpreting the findings on this dimension and by including additional explanations of their implications for the present study. The type of validation obtained with reference to the posed hypotheses will also be provided.

For the metacognition section of the questionnaires, the research hypotheses were partially confirmed.

Upon analysing the first set of questions, i.e. "How much do you encourage students to use metacognitive strategies in online foreign language classes?" (teachers' questionnaire) and "How much are you encouraged to use individual learning strategies in foreign language online classes?" (students' questionnaire), the results show consistency in the teachers' and students' attitudes, except for the monitoring strategy. As it appears in table 1, teachers encourage students to monitor themselves, while students do not feel encouraged in this direction (t=-2.23, p<0.05).

Table 1. Comparison between students and instructors regarding the use of metacognitive strategies in online foreign language classes

		Statistic	df	p	Mean difference	SE difference
Planning	Student's t	-1.303	448	0.193	-0.1257	0.0965
Self-monitoring	Student's t	-2.235	449	0.026	-0.2163	0.0968
Self-evaluation	Student's t	-0.298	447	0.766	-0.0296	0.0993

Note. H_a μ $_{Students}$ ≠ μ $_{Teachers}$

[a] Levene's test is significant (p < .05), suggesting a violation of the assumption of equal variances

This inconsistency might be due to students focusing too much on the cognitive aspect of the learning tasks, with little resources left for metacognitive strategies.

The second set of questions attempted to clarify the extent to which each group considered metacognitive strategies to be useful for the improvement of language skills. The teachers were asked "To what extent do you think each skill can be improved when using metacognitive strategies?" and the students: "If you use learning strategies, to what extent do you think they can help you improve each skill?" The results presented in Table 2 show a significant difference between teachers (M=4.01, SD=0.70) and students (M=3.62, SD=0.78); the former consider metacognitive strategies significantly more relevant than the latter (t=-5.26, p<0.05).

Table 2: Comparison between students and instructors regarding the usefulness of using metacognitive strategies

		Statistic	df	p	Mean difference	SE difference
Usefulness of strategies	Student's t	-5.25 [a]	438	< .001	-0.396	0.0754

Note. H_a μ Students $\neq$ μ Teachers

[a] Levene's test is significant (p < .05), suggesting a violation of the assumption of equal variances

Thus, the first hypothesis is partially confirmed, as teachers and students agree on encouraging/ being encouraged to use planning and self-evaluation, but students consider metacognitive strategies to be less useful than teachers do in terms of language skill improvement.

The third set of questions aimed to investigate reasons for not using metacognitive strategies. While teachers mainly blame lack of time (40.4%), learners level (35.6%) and needing to learn more about metacognition (35.6%), students mainly admitted to not knowing much about learning strategies (66.2 %). This might be an explanation for the students' reaction to the previous question, more precisely they did not find metacognitive strategies to impact language skills because they did not know how to use them.

The second hypothesis is therefore confirmed. Teachers feel they lack time for strategy training (considering the learners' level unsuitable for strategy training or admitting they need to learn more about metacognition), which is in line with students feeling they lack strategy training.

The last set of questions aimed to compare the usefulness of metacognitive strategy in online vs onsite classes perceived by teachers and students. Most teachers (62.5%) believed metacognitive strategies to be more useful in online as opposed to onsite classes. 57.3% of students shared this attitude, with 70.8% saying they preferred using them in self-study as opposed to online classes. The third hypothesis is therefore validated. It appears that students think that metacognitive strategies would give them more independence and autonomy, provided, of course, they received training in using them.

In the following section of this research study, our analysis of online politeness and face management applications in online foreign language teaching and learning concentrate on providing an insight into Romanian respondents' (learners and teachers) attitudes and perceptions. The approach we have used was to correlate students' answers to a series of questions with the teachers' answers to virtually similar questions (focussing on the same issue but slightly differently phrased) thus obtaining a twinned image of pragmatic politeness elements that may support effective communication and development of digital competence and online relationship skills.

Related to the issue of experienced anxiety in teaching and learning foreign languages online/in a hybrid environment the two mirrored questions have been Q39. in the teachers' questionnaire: *Have you felt communication related anxiety when teaching online?* and Q37. in the students' questionnaire: *Have you felt stressed when learning / communicating online*?

The purpose of this particular focus is twofold: to identify the existence of *anxiety* in online environments that lack the (human) warmth and directness of frontal teaching and learning as well as to assess possible reasons behind *students' online anxiety* and how it connects to any of the four skills: reading, listening, speaking and writing. When such instances are brought into discussion, language instructors become more empowered by acknowledging the coping mechanisms students employ and by creating digital resources and strategy

based handbooks that enable students to deal with their perceived difficulties.

Table 3. Comparison between students and instructors regarding the anxiety in online environments

|		Statistic	df	p	Mean difference	SE difference
Stress	Student's t	1.09 [a]	450	0.276	0.0538	0.0493

Note. H_a $\mu_{Students} \neq \mu_{Teachers}$

[a] Levene's test is significant (p < .05), suggesting a violation of the assumption of equal variances

Although the percentage of teachers that report the presence of anxiety (M=37.8%) is higher than the one reported by students (M=20.6%), we can state that there is not a statistically significant difference between the two groups, as it can be seen in table 3. Anxiety in online performance is acknowledged by both respondent groups as it regulates intellectual outputs to a great extent. Additionally, stress and anxiety in foreign language instruction are difficult to pinpoint correctly and to articulate into words especially on the part of students who regularly blame their anxiety on the environments, language level or their peers as opposed to ineffective self/face management, relationship skills or informed decision making that could lead to better pre-class preparation of inputs. Romanian students have identified the following elements that may be connected to their online anxiety: the online learning process/style-68.1%, the instructor's teaching style-42.9% and technical aspects that may impede on the overall quality of their online performance thus leading to stress driven outputs-51.6%.

Figure 2: Students' perception of the most difficult language competence to develop

41. Which language competence did you find most difficult to develop in the virtual classroom?
150 responses

- Speaking
- Listening
- Writing
- Reading

Speaking 53.3%, Listening 16.7%, Writing 24.7%
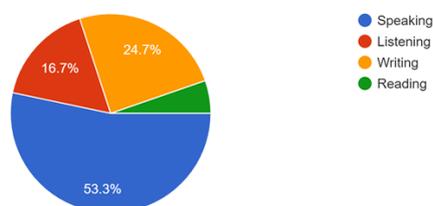
It is also relevant to mention the fact that for Q 41. *Which language competence did you find most difficult to develop in the virtual classroom? Romanian* respondents have identified the Speaking skill as being the one that is the most difficult to develop and enhance in online/hybrid classroom contexts as it can be observed in the Figure 2.

The second analysis we have included in the present study is connected to a fundamental concept within the pragmatic politeness theory: the concept of *face/self-image/our self-worth* that is constantly mitigated and negotiated in communication sequences for the benefit of co-constructing meaning and common ground. The e-face students and instructors project is mediated by a screen (CMC) and consequently it may be challenging for discourse participants to project an image that is both academically valid/professional and in accordance with an individual's own needs and wants. *Face* in foreign language instruction is rooted in the linguistic, cultural and contextual appropriation repertoire of the user. Face can be lost when confronted with the inability of performing a task to the best of one's abilities and-more importantly- one's own expectations of an ideal professional image that is promoted in order to be appreciated, respected and accepted in/by the online community one belongs to.

Question *41.How much stress and anxiety have you experienced in projecting a professional image while teaching online?* in the instructors' questionnaire has been related with Question 46 in the students' questionnaire: *How successful do you think you have been in projecting the professional image you wanted to?* The instructors' question has been phrased based on the existing challenges of rapidly moving towards an online/hybrid environment post Covid 19 with little or no digital pedagogical experience in operating the intricacies of PDC (pedagogical digital competence). The students' question has been more positively phrased due to the fact that image projection resulting in various degrees of success may need additional theoretical explanations (i.e. pragmatic politeness related explanations with reference to the concept of face management). This aspect has been essential in offering deliverables for online classroom use that render themselves both informative and practical.

Table 4: Comparison between students and instructors regarding the professional image projection

		Statistic	df	p	Mean difference	SE difference
Projecting a professional image	Student's t	5.11 [a]	451	< .001	0.563	0.110

Note. H_a $\mu_{Students} \neq \mu_{Teachers}$

[a] Levene's test is significant (p < .05), suggesting a violation of the assumption of equal variances

The anxiety level generated by professional self-image/face projection is significantly higher in students than in the case of teachers/instructors (t=5.11, p<0.05) who have been also asked to assess the face projection challenge in hybrid/online teaching/learning environments. There is high research potential in assessing the reasons behind students' difficulty in projecting an academically appropriate face as well as in instructors' knowledgeable management of students' anxiety through implemented strategies that aim at offering a safe communicative environment supported by appropriate use of politeness strategies that take into account both the interactants' face needs and wants. Some of the elements we suggest should be taken into account by future research are connected to but do not limit themselves to: achieved CEFR linguistic level that may render students more confident in articulating their opinions in the foreign language in front of their colleagues and teacher while performing assigned tasks, the heightened peer pressure that regulates online student-student interactions where their image is mediated/intermediated by an e-face lacking nonverbal cues that normally support traditional face-to-face interaction, the difficulty online interactions entail in the case of oral student performance that occurs and unfolds in real time.

By relating the respondents' answers to the 3rd selected pair of questions, the importance of student engagement/participation has been brought into focus. Student engagement in foreign language instruction is both an aim and a prerequisite for developing language skills, functional, communicative and pragmatic digital competence, cultural and intercultural sensitivity. The analysed correlations (Q 44 for teachers: *How important is student participation/engagement in your instructional goals*? and Q 39 for students: *How important was it for you to engage with your colleagues and teacher online*? have resulted in the following answers as presented below.

Table 4: Comparison between students and instructors regarding the importance of student engagement.

		Statistic	df	p	Mean difference	SE difference
Engage	Student's t	-14.3 [a]	451	< .001	-1.13	0.0787

Note. H_a $\mu_{Students} \neq \mu_{Teachers}$

[a] Levene's test is significant (p < .05), suggesting a violation of the assumption of equal variances

Figure 5: Strategies used for student engagement
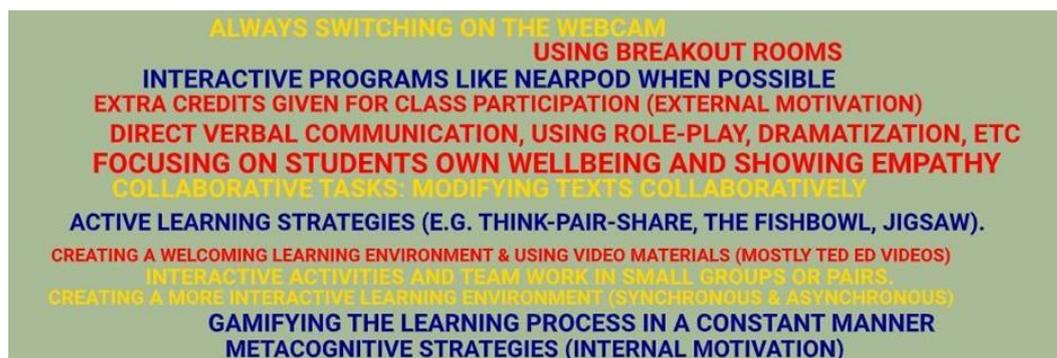
Our statistical data shows the fact that teachers consider the importance of achieving a high level of student engagement as being more important in the learning-teaching process than students do (t=-14.3, p<0.05) for the completion of foreign language instruction objectives. In Figure 5, we have included a physical representation of some examples of strategies Romanian language instructors use to engage their students in classes.

It is our contention that there *is an important connection* to be established between the level and quality of student engagement in CMC (computer mediated communication) and the issue of whether or not the student's camera is turned on. Subsequent research on this matter is necessary within the field of foreign language training where genuine communication is anchored into both verbal and nonverbal cues that may modify the recipient's assessment and overall validation of task-based performance. Both the teachers' questionnaire and the students' questionnaire have included such a focus under the following questions: Q45-Teachers: *To what extent have your students kept their video camera on in online classes*? And Q45-Students: *To what extent have you kept your video camera on in online classes*?

In regards to the issue of students starting their camera during online classes, the teachers' perception (related to students' habit of using cameras) and the students' appreciation of the use of their camera coincide as there is little discrepancy between the two groups (t=1.15, p>0.05). Both teachers and students admit that Romanian students rarely turn on their cameras during courses. We argue that the necessity of consistently formulating the request for students to start their cameras during online classes has to be further researched within the field of language teaching and learning as the issue is culturally, socially, psychologically and technically bound. Reasons such as student performance anxiety, students' home environment and/or location, quality of the Internet connection as well as their willingness to engage at all levels may be tapped into by future research.

Table 6: Students turning cameras on during classes (students' perception and teachers' perception).

Independent Samples T-Test

		Statistic	df	p	Mean difference	SE difference
Camera on	Student's	1.15	451	0.249	0.122	0.106

Note. H_a $\mu_{Students} \neq \mu_{Teachers}$

[a] Levene's test is significant (p < .05), suggesting a violation of the assumption of equal variances

There are three hypotheses that this research study has put forward related to *pragmatic politeness manifestations* within the hybrid/online foreign language instruction. The 1st hypothesis (*Language instructors and learners acknowledge the existence of anxiety in online foreign language instruction*) has been validated as both groups (instructors and students) admit its emergence in the online context. Subsequent research projects should focus on documenting more on the one hand the existing reasons behind online anxiety as well as on identifying coping strategies to deal with it (e.g. Politeness Toolkit_DIAL4U Project).

The second pragmatic politeness related hypothesis (*The successful projection of a professional self-image/e-face in hybrid/online environments is perceived as difficult to accomplish*) has been validated as both parties admit that professional image projection is associated with difficulty/anxiety. Our results show that students are more stressed by e-face projection than instructors. Consequently, language instruction has to highlight positive/negative politeness strategies that may enable students to consistently practise facework.

Finally the 3rd hypothesis (*Language instructors and learners are aware of how important student engagement is in online classes*) has been partially confirmed with teachers valuing the importance of student engagement more than students do.

5. Conclusions and Further Directions

The present study has focussed on selected representations of metacognitive and pragmatic politeness in the HE foreign language instruction as documented by the response analysis to two twinned questionnaires applied to a Romanian target represented by students and instructors. Such manifestations have rarely been analysed together by researchers in the field of online/hybrid HE formal and/or non formal education. The unique selling point of this paper lies in its twofold focus on strategy provision (metacognition and politeness) that should accompany emerging efforts in providing a digital pedagogical framework that starts and continues with a focus on improving the participants' learning experience through social and emotional learning (SEL) supported guidelines. Students develop language proficiency through engagement with both their instructors and peers on task based content. When this development of competences is enhanced by the pre/while/post metacognitive reflection on strategy use, there is a high probability for students to comprehend the inner mechanisms that foster, maintain and maximise learning. Additionally, in our research paper, we have highlighted the substantial gain learners and instructors have from being informed on the intricate ways pragmatic politeness permeates and regulates effective communication at a variety of levels: linguistic, pragmatic, social, and cultural. The *why* (metacognition) intertwines with the *how* (politeness) supporting an approach to teaching modern languages by acknowledging students' needs. As our study has shown, teachers and students generally value metacognition and its impact on language learning; however, students tend to feel that metacognitive strategies are less useful in terms of language skill improvement. This may be due to students not knowing how to use strategies, especially since teachers feel they lack time for strategy training. Metacognitive strategies are generally believed to be more useful in independent self-study and in online as opposed to onsite classes.

Additionally, our results show that anxiety is an issue that arises in CMC contexts where the rules for communicating effectively are different and existing conditions may put a strain on participants. Rapport management regulates this issue through the employment of politeness strategies that may manipulate, enhance and control the communicative output to better collaborative effect. Digital anxiety is a facet of rapport management that deserves recognition and subsequent research focus. Secondly, the conscious process of e-face projection in an online environment has been validated as challenging by both respondent groups. E-face is negotiated in order to maintain an individual's autonomy/freedom from imposition, but also to provide participants with the certainty that they are acknowledged, appreciated and their inputs are important. In this line of thought, it has become apparent that digital pedagogical frameworks within which content is mediated through foreign languages need to hold interactants' human needs (cognitive, intellectual, psychological and emotional) in high regard by safeguarding their online wellbeing and safety.

This study has been founded on the above-mentioned participants' feedback and it has therefore provided an unbiased account of the benefits associated with increased awareness regarding the use of metacognitive and politeness strategies in language learning. To date, these research topics are not sufficiently explored as they hold the potential for creating learning paths that develop autonomy and activate digital cognition.. The effective processing of the sea of information available at students' fingertips through such a generous array of electronic apps and resources may be controlled to a large extent by drawing more awareness to the benefit of using metacognition and politeness knowingly and purposefully.

Our future research will concentrate on testing the obtained deliverables on a larger respondent target as well as on engaging in a compare-contrast cross-cultural analysis of their benefits and drawbacks in the respective project participant countries. Further research endeavours may tap into such feedback as context is one invaluable element that shapes the digital pedagogy landscape in *unique colours*.

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The induction into the profession of teaching. From an appraisal of the training requirements of teachers to the guiding concepts and strategies

Adina Elena Glava, Letiția Muntean-Trif, Alina Georgeta Mag, Mihaela Gabriela Neacșu

The induction into the profession of teaching. From an appraisal of the training requirements of teachers to the guiding concepts and strategies

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| Abstract | This article provides an analysis of the distinct training requirements for teachers during their first year of teaching and the origins of professional fulfilment at the outset of their teaching profession. The objective is to derive fundamental principles and actionable guidelines that can be incorporated into an induction mentoring model. The provision of mentorship by an experienced and knowledgeable teacher with expertise in professional counselling is crucial for beginning teachers in order to facilitate quality instruction, efficient classroom management, and successful integration into the educational community. The chosen approach for this study is qualitative research methodology. The process of conducting a needs analysis involved the selection of first-year teachers who were the recipients of an induction programme, as well as induction mentor teachers from three counties, namely Argeş, Sibiu, and Alba. The research was conducted at the onset of the programme, serving as a pilot study aimed at providing assistance to beginning teachers during their first year of teaching through a remote induction mentoring programme. The study adopted a survey methodology utilising a questionnaire to investigate the requirements of beginning teachers in their first year of teaching. |

Keywords:
requirements for professional development; beginning of a teaching career; induction mentorship; teaching profession.

| Zusammenfasung | Der Artikel stellt eine Analyse des spezifischen Weiterbildungsbedarfs von Lehrkräften im ersten Jahr ihrer Lehrtätigkeit und der Quellen beruflicher Erfüllung zum Einstieg ins Lehramt vor, um einige Prinzipien und Handlungsrichtungen hervorzuheben, die einem Einführungsmentoring/Induktions-Mentoring-Modell zugeordnet wurden. Berufseinsteiger brauchen die Unterstützung eines Mentorlehrers mit Erfahrung und Fachwissen in der professionellen Beratung, der sie dabei unterstützt, qualitativ hochwertigen Unterricht, effektives Klassenmanagement und optimale berufliche Integration in der Bildungsgemeinschaft sicherzustellen. Die Forschungsmethodik ist qualitativ. Um die Bedarfsanalyse durchzuführen, wurde die Auswahl der angehenden Lehrkräfte, der Empfänger des Einführungsprogramms und der leitenden Mentorlehrer aus den 3 Kreisen (Argeş, Sibiu und Alba), die an einem Einführungsmentoringprogramm beteiligt waren, unternommen. Die Studie wurde zu Beginn des Programms durchgeführt, das eine Pilotstudie darstellte, die sich auf die Unterstützung von Anfängern im ersten Jahr ihrer Lehrkarriere durch ein Ferneinführungs-Mentoring-Programm konzentrierte. Die Recherche erfolgte in Form einer Umfrage auf Basis eines Fragebogens, mit der die Bedürfnisse von Berufseinsteigern im ersten Lehramtsjahr abgefragt wurden. |

Schlüsselworte:
Berufsbildungsbedarf; Einstieg ins Lehramt; Einführungsmentoring; Lehrberuf.

1. Introduction

During the first years of their teaching career, beginning teachers greatly benefit from the guidance and assistance provided by a mentor teacher. This mentoring process is crucial in helping them develop the necessary skills and confidence to become independent and effective teachers.

The beginning of a teaching career is marked by assuming the position of teacher who teaches in a class upon joining an educational institution. The topic of discussion pertains to the concept of formal insertion, which entails acquainting beginning teachers with the actuality of academic life. This is achieved by imparting knowledge regarding the specific elements of school organisation, cultural norms, regulatory frameworks, and operational procedures. Beginning teachers are aware of a form of informal insertion that appeals to the empathetic nature of some of the teachers within the field, who are inclined to welcome and provide emotional assistance to them within the

context of the professional community. The teacher mentor plays a crucial role in both forms of insertion.

Since 2011, the mentoring legislation in Romania has mandated that *the teacher mentor provides support to the interns until they achieve completion and obtain the title of teacher, enabling them to practice in pre-university education* (art. 23, paragraph 3/Order 5485). The internship mentor, also known as the professional insertion mentor, is an experienced teacher and behavioural role model who has been competitively selected to fulfil this role. These professional mentors possess a range of advanced professional competencies. According to the methodology (art. 20), the mentor responsible for induction, internship, or professional insertion provides four distinct forms of assistance:

a) informational support - the teacher mentor serves as an informational resource for the mentee teachers/intern teaching staff, offering them the latest knowledge in an accessible form and emphasising its practical-applicable aspects;

b) instrumental support - the mentor teacher guides the mentee / intern teachers in training the skill of selecting materials and information;

c) evaluative support - the teacher mentor provides substantive feedback to train the teachers / mentee teaching staff in self-assessment skills.

d) emotional support - the teacher mentor offers emotional support to the teachers / mentee teachers, providing support and understanding when needed to increase the degree of confidence in their own strength.

In the last two decades, preparation of teaching staff for the commencement and progression of their careers has been a constant topic of discussion (Art. 275, paragraph 3 / National Education Law). The legislation in effect supports the requirement of continuous annual training of teachers from the beginning of their careers. Through current legislative reform efforts, which are strongly backed by systemic projects at the national level, solutions are sought for the development of a normative and coherent framework for the professionalization of the teaching career, the mentorship for teachers being one of the most important and urgent current needs in the field of teacher education.

2. Theoretical framework

According to Professor Ion-Ovidiu Pânișoară (2017), the teaching profession has been and continues to be a fundamental component of the overall social structure, with the quality of daily classroom work playing a crucial role in shaping the future of the world. The contemporary world undergoes rapid and dynamic transformations, and educational institutions are not immune to these accelerated changes across all domains. The discourse centres around the emergence of a new student profile that has been significantly impacted by technological advancements, a new category of parents who are viewed as collaborators with educational institutions, and numerous obstacles to be addressed in the domains of learning, motivation, assessment, and communication.

For beginning teachers, the process of attaining professionalism and acquiring proficiency in utilising diverse pedagogical approaches across various domains, whilst simultaneously managing personal development, familial obligations, administrative duties, and everyday challenges, whilst prioritising academic achievement and attending to the emotional and social well-being of students, constitutes a multifaceted and intricate endeavour. Conversely, perpetual advancement characterises every aspect of life, thereby rendering the role of a teacher multifaceted (Pânișoară, 2017).

The onset of a professional career has been noted by several scholars to be fraught with difficulties, obstacles, and personal impact, which can both stimulate strengths and expose inherent vulnerabilities, leading to stress and a clear requirement for mentorship, particularly in light of the current educational crisis (Cucoș, 2022; Marga, 2019).

A proficient teacher is imperative for each class of students. The attainment of optimal teaching outcomes and the delivery of high-quality induction programmes are crucial goals for educational systems that train teachers. In the United States, a variety of induction programmes have been implemented to address the challenges faced by beginning teachers within the educational system. The assessment and enhancement of the implemented models were contingent upon the participants' perspectives regarding the tangible effects of the programmes, according to Algozzine et. al (2007).

The field of education is currently experiencing notable global transformations due to the influence of

globalisation, digitalisation, and neuroscientific advancements. Within this framework, Professor Andrei Marga emphasizes the significance of responsible education and the cultivation of authentic specialists who are fully committed to their professional responsibilities (Marga, 2019).

The issue of stress among beginning teachers is a significant and under-researched concern within both theoretical and practical domains. According to Pânișoară (2017), teachers may experience a sense of being overwhelmed due to the challenges inherent in managing the teaching process, including difficulties in communication with certain students or parents. These stressors can accumulate and have an exponential impact on all parties involved (p. 131). Providing assistance to beginning teachers is not only essential, but imperative, in enhancing the quality standard of education.

According to Crașovan (2016), beginning teachers during the induction or entry phase require the guidance of an experienced mentor teacher to establish pedagogical connections and supervise real learning procedures, whereas also practically assuming their responsibilities within the classroom, with the aim of achieving ongoing enhancement. According to Cucoș (2022), the mentor, who is regarded as a master, teacher, guide, and coach, assumes the responsibility of anticipating potential challenges, facilitating the process of overcoming obstacles, and providing unwavering support during critical situations. The pedagogical practice of mentoring entails the utilisation of targeted exercises and training aimed at fostering self-reliance in the process of problem-solving.

According to Neacșu, Iucu, and Marin (2017), specialist literature emphasizes the importance of professional induction programmes (early career support) for beginning teachers. These programmes are designed to provide well-trained mentors who can effectively guide and support beginning teachers in their professional development. The mentors are skilled in leveraging their own professional aspirations and the aspirations of the new teachers to help shape their personal goals in relation to the desired level of instruction and education. Educational aspirations are closely associated with the individual's drive to excel in their chosen profession. They serve as a motivating and dynamic force that propels their efforts, actions, and initiatives towards training and self-education.

Aspirations play a crucial role in fostering the development and refining of professional competencies, in emphasizing the drive to attain the highest possible level of one's potential, and in achieving professional expertise (Bocoș, 2016, p. 103).

Professor Mariana Crașovan actively supports mentorship as a necessary and efficient method of professional induction, considering that teaching is one of the most demanding professions. The studies synthesized in the author's works emphasise that the key factor that impacts students' achievements is the quality of teachers' training. The constant critique of the current initial training system prompts us to explore new types of professional training that facilitate a successful entry into the profession and career development in Romania (Crașovan, 2004, 2005, 2015).

The induction mentoring programme for teachers is centred on the academic achievement of students, irrespective of their familial and societal circumstances. Teachers are the primary drivers of educational outcomes and school performance. According to Marzano (2015), the primary factor contributing to the success of a school, in addition to a well-defined and structured curriculum, is the quality of the teachers employed at the school. The concept of successful teaching as a combination of scientific and artistic elements has been highlighted by various authors. According to Marzano (2015), Iucu (2005), and Potolea (2001), effective teaching involves a dynamic mixture of expertise in diverse instructional methodologies and an in-depth understanding of the unique characteristics of each student within a classroom.

According to Lazar and Leahu (2020), establishing a connection between a master's degree programme and the preparation of teaching professionals is of paramount significance, surpassing that of any other occupation. The process of induction mentoring entails a significant shift in the overall school culture, which is founded on a set of guiding principles and actions aimed at ensuring the consistency of the entire approach (Taranto, 2011).

The European Commission endorses the implementation of induction programmes for teachers as a means of mitigating attrition rates in the profession, enhancing the quality of new teachers, providing them with social, emotional, and professional support, promoting a culture of learning

in educational institutions, and delivering constructive feedback to universities in the context of initial training. Induction mentoring programmes serve as the optimal connection between primary education and ongoing education. The acquisition of a qualified teacher's status in a school is significantly influenced by the three dimensions of professional, social, and personal programmes (European Commission, 2010).

3. Research methodology

3.1. Participants

The present study gathered data by means of surveying 24 beginner teachers specializing in primary and preschool education, who were in their first year of teaching, from the counties of Arges, Sibiu, and Alba. The selection criteria for the group of participants were as follows: teachers who are in their first year of the teaching profession, have not previously received support from an induction mentor, are currently undergoing comprehensive master's studies in the field of educational sciences, and have either requested the assistance of a mentor or expressed interest in participating in an induction mentoring programme.

3.2. Research aims

This study aims to investigate the challenges encountered by new teachers during their first year of teaching, particularly in Romania where this period coincides with the preparation for the qualified teacher's status examination (the definitive degree examination). The research seeks to address three primary inquiries that have been identified as underexplored in the limited existing literature on this topic. This specific reality increases the strain of dealing with all the obstacles and experiences of beginning teachers.

The research inquiries that were posed were as follows:

▪ What are the primary sources of professional satisfaction for beginning teachers?

▪ What are the self-perceived early professional development needs of new teachers and what are the professional challenges and difficulties associated with them?

What is the optimal structure for a formal induction process that addresses the alleged professional needs and challenges of new teachers?

3.3. Procedure

As a component of a more extensive investigation, we performed an examination of the origins of professional satisfaction during the onset of the pedagogical profession and the educational requirements perceived by teachers in the early phases of their teaching careers. The present study employed a mixed-methods approach, utilizing a questionnaire-based survey and a focus group activity. The latter was conducted via an online meeting and involved the participation of all 24 respondents. Moreover, the focus group session aimed to delve further into the responses provided during the needs analysis, with a particular emphasis on exploring the professional challenges that occur more frequently and with greater intensity. Additionally, the session sought to examine the teaching solutions that have been previously implemented and their effectiveness in addressing professional issues.

The study yielded open-ended responses from both instruments utilized, which were qualitatively analysed to identify patterns and priorities in professional development.

4. Results

The perspective of two dimensions was employed for the centralisation, analysis, and interpretation of the obtained results:

4.1. Sources of professional satisfaction at the commencement of the teaching career

Commencing with the assumption that the initial year of a teaching career entails professional challenges that new teachers must undertake, often feeling inadequately equipped due to insufficient expertise gained during the initial training phase, our focus was directed towards identifying alleged sources of professional satisfaction during their first year in the profession. I have considered that deriving professional satisfaction from one's work can serve as a catalyst for professional motivation, daily satisfaction, and resilience in the face of the inherent challenges that accompany the teaching profession.

In response to the inquiry regarding the sources of daily professional satisfaction in working with pre-primary / students, the respondents cited several broad motivations. I aspired to pursue this occupation (two options), as well as explore further possibilities of a more tangible nature, which can be categorised as follows:

▪ *training motivations*: satisfaction of disciplining groups of apprentices (1 response); joy of the enrichment of knowledge (8 responses);

▪ *motivations related to the management of the teaching process and the achievement of proposed objectives* (3 responses); motivations for the manifestation of professional authority, expressed as forms of freedom in decisions regarding the design and conduct of teaching activities (2 responses);

▪ *motivations related to the teacher-student interaction*. The most significant source of professional satisfaction in this category was positive feedback from children (14 responses), followed by the pleasure of interaction (e.g. *a child's smile*, 3 responses).

Occupational satisfaction sources have been utilised as motivators to remain in the teaching profession. The emphasis on deriving satisfaction from daily interactions and receiving positive feedback from students aligns with previous research on professional needs during the early stages of a teaching career. Borich (2011) links the beginning of one's career with the initial stage of professional survival. During this stage, it is important to establish oneself as agreeable and express gratitude towards those who benefit from one's professional efforts, such as students, parents, and inspectors. Pânișoară and Pânișoară (2010) emphasise the significance of beginning teachers' awareness regarding the origins of their daily professional satisfaction. This awareness is deemed crucial in fostering motivation towards pursuing and excelling in their chosen profession, despite the encountered challenges.

4.2. The categorisation of professional development needs pertaining to the professional induction mentoring relationship, as identified by beginner teachers in the survey, is as follows:

▪ to identify, comprehend, and adapt strategies that foster positive interpersonal relationships, support, cooperation, and collaboration among children with Special Educational Needs (SEN) and their peers:

"how to manage conflict situations that may arise between children in these setting; the reduction of the SEN students' number;

"differentiated work with students requiring additional support".

"However, in the classroom, managing children with medical conditions and SEN has proven to be challenging (disengagement, lack of attention, and absence of visual contact, which can lead to exhaustion among teaching staff)".

▪ collaboration with a supportive teacher is necessary to cater to the individual needs of children with SEN. Additionally, a team of experts comprising psychologists, psycho-pedagogues, speech therapists, and other specialised professionals should be involved to provide tailored interventions that are specific to each child or student:

"The school counsellor serves as a resource for addressing issues and facilitating communication regarding individual students. As an educator, there is a need to acquire the skills necessary to effectively manage a diverse group of students across four classes. This includes developing strategies to optimize time allocation during class sessions for maximum impact."

▪ the absence of prior experience in formulating efficient regulations for a class of students necessitates an adjustment to the peculiar behavioural challenges that are unique to them:

"How to be firmer and empathic at the same time?"

"Communication, organisation, and pre-primary participation in group activities";

"There are 25 students in my class, 19 of whom are male. How can I maintain their interest throughout the entire activity when they are interacting only within their predetermined groups?"

"As a teacher, I have observed that a group of 10 children attending the Step-by-Step method of education frequently express their dissatisfaction with the rules they must comply with during our sessions. "At the other teacher, we didn't sleep, so let's play!" The second challenge that I encountered pertains to the semicircle, wherein individuals express their opinions, particularly the twin girls who exhibit a tendency to laugh at anything and exhibit behaviour that is deemed inappropriate. On the occasion of Halloween, while dressed in costumes, the twins made an unkind comment to a young girl, stating "Why did you choose to wear a unicorn costume? You're poor."

▪ identification and illustration of activities intended at the active involvement of parents in the school activities of their children:

"how to attract their attention when their children cry out for them"

"Today, a boy who does not want to sleep unintentionally struck another child, leaving a small, almost imperceptible lesion on his lips. However, the parents disagreed and an indescribable argument erupted. What is required? How can I increase parental involvement?"

"How can I enhance cooperation between the parties involved in the development of nursery activities?"

▪ providing guidance to beginning teachers regarding the development of yearly curricular plans, the creation of instructional modules, and particularly, the distinctiveness of lesson types and pedagogical activities.

"The aspiration to participate in hands-on instructional sessions";

"examples of activities for periods of tranquility and engagement.

"The provision of guidance and support by peers who have attained a specific level of professional advancement and possess significant expertise is an example of collegial communication with both superiors and directors."

▪ identifying and defining the essential teaching components required for the organisation and presentation of scientific concepts, whilst also tailoring them to the individual learning pace and unique characteristics of students or children; exploring the efficiency of adapted teaching-learning methods in specific educational contexts:

"the importance of improving teaching practices and participating in activities that foster a favourable atmosphere for learning;

"bridging the gap between theoretical knowledge and practical application. As a new teacher I had to deal with four classes simultaneously and I can easily highlight the challenges faced and the lack of support during the early stages".

▪ legislative and methodological clarifications regarding the organisation, design, and implementation of extracurricular activities:

"the need for a support system that can effectively manage all the necessary tasks associated with extracurricular activities, including administrative and secretarial duties."

▪ an illustration of the process involved in filling out school documents and providing clarifications on the significance of such documents.

"The absence of a nearby mentor to provide support",

"the necessity of receiving constructive feedback from an expert teacher regarding classroom performance"

"The need for assistance or guidance in developing class plans and designs are all significant factors".

▪ providing pedagogical guidance for the development and utilisation of specific instruments in teaching activities, such as:

"A framework for assessing activities for the pre-primary class".

▪ identification of material resources for the arrangement and reconstruction of classrooms, teaching materials, and equipment specific to today's education in classrooms:

"the need for performance equipment in classrooms".

"Material resources at the teaching staff's disposal – without the need to ask parents to offer financial support (e.g. chalk, sponges, markers, paper, printer, interactive board, etc.) plus emergency maintenance services for IT products. Another requirement is the necessity for financial support. We pay out of pocket for everything necessary to satisfy the child's requirements, from towels to appliances".

▪ in addition to the aforementioned requirements, there is a desire for a satisfactory remuneration and the provision of cutting-edge educational technologies:

"It is noteworthy that teachers are currently bearing the financial burden of fulfilling the basic necessities of their students, including but not limited to towels and appliances."

5. Discussion of findings and principles for an effective professional induction mentoring

This study focused on the analysis of the needs that have been identified by beginning teachers, based on

their accumulated professional experience. The study involved interviewing participants with a focus on their professional teaching experiences, classroom management, and interactions with students' families. The aim was to gather insights from a range of professional situations unique to the school environment. The participants' answers indicate that they possess knowledge regarding the origins of job satisfaction that are comparable to those found in earlier research studies (Pânișoară & Pânișoară, 2010). Additionally, the participants' focus on internal motivation for their occupation implies their capacity to persist and participate in early professional development.

Regarding the professional challenges associated with classroom management, the participants' feedback emphasises the necessity of directing mentoring efforts towards enhancing cross-sectional and personal competencies, specifically effective communication and interaction skills. The contemporary context presents increased challenges for managing the classroom and fostering effective interactions within the relational field of the school. Some respondents have identified this context as problematic, as it constantly questions the authority of the school and the relevance of teachers. Consequently, there is a need to reassess the status of teaching staff (OECD, 2022; UNESCO, 2022).

The examination of sources of professional satisfaction during the early years of the teaching career, in combination with a thorough analysis of the identified requirements, facilitates the development of fundamental guidelines for the integration of an induction mentoring programme. This programme enables the fulfilment of the specific requirements that have been identified among beginning teachers:

▪ The formalisation of professional induction mentoring programmes is an action principle that has a clear intention at the national level. This principle has been stated by the PROF systemic project, specifically its PROF 1 component, which focuses on the training of trainers and of mentors for the induction in the teaching profession.

▪ Professional induction programmes prioritize the facilitation of early professional development, specifically by providing support for the enhancement of professional knowledge and teaching skills through personalised and contextualised methods.

The focus of the mentoring interaction is to foster the development of professional skills and attitudes among beginning teachers, with the aim of facilitating their engagement in collaborative professional activities. This is achieved through the use of modelling as a learning strategy, which cultivates a sense of professional coherence and a feeling of belonging to the community of teachers. This approach entails surpassing the emphasis on career advancement and broadening the scope of mentorship to encompass further elements of individual development.

6. Conclusions

The articulated professional development needs, as described by the participants, serve as evidence of their desire to address professional challenges that may arise within the specific context of their professions. The teaching plan challenges highlight the necessity for instructional design assistance, including tailored instruction on how to effectively integrate methodological components into training programmes and manage school time effectively. It is worth noting that the requirements mentioned above align with the ones stated by Findlay (2006) and Duffield (2006). These requirements emphasise the importance of concentrating mentoring programmes for professional induction on an individualised approach and on the further enhancement of professional skills that were acquired during the initial training. Therefore, beginning teachers necessitate the assistance of an experienced and highly competent teacher mentor, who possesses expertise in professional counselling, to provide guidance and ensure the efficiency of their teaching. This is crucial for effective classroom management and optimal professional integration into the educational community.

Authors note:

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The impact of socio-emotional learning (SEL) on academic evaluation in higher education

Anca Simion

The impact of socio-emotional learning (SEL) on academic evaluation in higher education

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Abstract	
Keywords: socio-emotional learning (SEL); higher education; self-awareness; self-motivation; evaluation.	The implementation of social and emotional learning (SEL) strategies has been shown to foster cognitive development, boost student motivation and focus, improve teacher-student relationships, and enhance student confidence and achievement. To further promote engagement and social awareness in higher education, greater emphasis should be placed on addressing students' emotional needs in the classroom. By emphasizing respect for others, appreciation for diverse perspectives, and willingness to help those in need, SEL can enhance student motivation, academic achievement, and overall success in higher education. For many students, the transition to higher education can cause anxiety, stress, and a sense of isolation. Without the necessary social and emotional skills to navigate this new environment, students may struggle academically, socially, and emotionally. This is where social and emotional learning (SEL) can play a crucial role in helping students successfully transition to higher education. By developing SEL skills, individuals are better equipped to navigate life's challenges and opportunities, both in their personal and professional lives. The current study explores how students in higher education perceived their experiences related to assessment, performance, anxieties, insecurities, and self-management. The study aimed to gain a better understanding of how students perceive the higher education environment and how it impacts their motivation to learn and succeed.

Zusammenfasung	
Schlüsselworte: sozial-emotionales Lernen (SEL); höhere Bildung; Selbstbewusstsein; Selbstmotivation; Auswertung.	Es hat sich gezeigt, dass die Umsetzung von Strategien für soziales und emotionales Lernen (SEL) die kognitive Entwicklung fördert, die Motivation und Konzentration der Schüler erhöht, die Lehrer-Schüler-Beziehungen verbessert und das Selbstvertrauen und die Leistung der Schüler erhöht. Um das soziale Engagement und Bewusstsein in der Hochschulbildung weiter zu fördern, sollte der Berücksichtigung der emotionalen Bedürfnisse der Studierenden im Unterricht mehr Aufmerksamkeit geschenkt werden. Durch das fördern des Respekts für andere, die Wertschätzung unterschiedlicher Perspektiven und die Bereitschaft, Bedürftigen zu dienen, kann SEL die Motivation der Studenten, die akademischen Leistungen und den Gesamterfolg in der Hochschulbildung verbessern. Für viele Studenten kann der Übergang in die Hochschulbildung Angst, Stress und ein Gefühl der Isolation verursachen. Ohne die sozialen und emotionalen Fähigkeiten, die erforderlich sind, um sich in dieser neuen Umgebung zurechtzufinden, können die Schüler akademisch, sozial und emotional kämpfen. Hier kann soziales und emotionales Lernen (SEL) eine entscheidende Rolle spielen, um den Studierenden einen erfolgreichen Übergang in die Hochschulbildung zu ermöglichen. Durch die Entwicklung von SEL-Fähigkeiten sind Einzelpersonen besser darauf vorbereitet, sich den Herausforderungen und Chancen des Lebens zu stellen, sowohl in ihrem persönlichen als auch in ihrem beruflichen Leben. Die aktuelle Studie untersucht, wie Studierende ihre Erfahrungen mit Beurteilung, Leistung, Ängsten, Unsicherheiten und Selbstmanagement wahrnehmen. **Ziel der Studie war es, **ein besseres Verständnis dafür zu erlangen, wie Studierende das Hochschulumfeld wahrnehmen und wie es ihre Lern- und Erfolgsmotivation beeinflusst.

1. Introduction

The Collaborative for Academic, Social, and Emotional Learning (CASEL) first introduced the concept of social and emotional learning (SEL) more than 20 years ago. SEL involves the acquisition and application of knowledge and skills that enable children, adolescents, and adults to understand and manage their emotions, set goals, demonstrate empathy towards others, cultivate positive relationships, and make responsible decisions.

Recently, the definition of SEL has been expanded to include a focus on equity, emphasizing that the development of SEL competencies can help bridge differences related to race, class, gender identity, sexual orientation, learning needs, and age. Social-emotional learning (SEL) refers to the development of knowledge, attitudes, and skills that enable individuals to identify and manage their own emotions, increase their empathy towards others, and set and achieve

personal goals. The framework developed by the Collaboration for Academic, Social, and Emotional Learning (CASEL) can be used as a guiding model and can be applied to adult education as well, even though it was originally created for use in K-12 education (Gallagher and Stocker, 2018).

2. SEL in higher education

According to the CASEL model, there are five key components of SEL: Self-Awareness, Self-Management, Responsible Decision Making, Social Awareness, and Relationship Skills. Self-Awareness involves understanding one's own emotions, thoughts, and values, as well as recognizing how they influence behavior. Self-Management involves regulating one's own emotions, thoughts, and behaviors, especially in challenging situations, and setting and working towards personal and academic goals. Responsible Decision Making involves making ethical and safe choices based on an evaluation of the consequences of one's actions and consideration for the well-being of oneself and others.

Social Awareness involves taking the perspectives of others and demonstrating empathy towards people from diverse backgrounds and cultures, while also understanding social and ethical norms. Relationship Skills involve building and maintaining healthy and positive relationships with a variety of individuals and groups, including clear communication, active listening, collaboration, conflict resolution, and seeking and offering help when needed. By developing these five competencies, individuals can enhance their own well-being and success, as well as contribute to the betterment of their communities. Social and emotional learning (SEL) has been increasingly recognized as a critical component of education, as it helps students develop the skills and attitudes necessary for success in school and in life. Research (Shriver and Buffett, 2015) has shown that when students receive explicit instruction in SEL, they are more likely to develop positive attitudes towards themselves and others, have better relationships with peers and adults, and perform better academically.

In the education system, there has been a push to integrate SEL into curricula at all levels, from pre-school to higher education. Teachers and school administrators have recognized the importance of addressing the whole student, including their emotional and social development, in addition to their academic progress (Keefer et al., 2018). This has led to the creation of programs and initiatives that focus on developing SEL skills in students, such as mindfulness practices, conflict resolution training, and leadership development programs.

The growing emphasis on social and emotional learning reflects a broader recognition of the importance of addressing the whole person, rather than just their academic or professional abilities. Transitioning from high school to higher education can be a challenging and stressful experience for many students. It is often the first-time students are away from home and their support system, and they are expected to adapt to a more independent and demanding academic environment. The academic and social demands of higher education can be overwhelming, particularly for students who are not prepared for the increased workload, academic rigor, and social expectations. This diversity can be a source of enrichment, but it can also create challenges in terms of communication, understanding, and interaction (Destin et al., 2021). Students entering higher education often find themselves in a diverse environment, meeting other students from different cultural and socio-economic backgrounds.

3. Evaluation in higher education

The field of educational evaluation has expanded significantly in the last two decades, as the importance of evidence-based decision making in education has become increasingly recognized.

Evaluation serves various purposes, including measuring student progress and learning outcomes, evaluating the effectiveness of educational programs and policies, and ensuring accountability for educational outcomes. For instance, evaluations may be conducted to assess the impact of a new teaching strategy, determine the effectiveness of a curriculum, or measure the progress of students in meeting academic standards.

Evaluations are also being conducted by school administrators and teachers to improve school performance and foster creative spaces for learning. These evaluations may involve gathering feedback from students or stakeholders, observing classroom practices, or analyzing student work (Love, 2010). By using evaluation data to identify strengths and weaknesses, educators can make informed decisions about how to improve instruction, curriculum, and other aspects of the educational system.

Taking a holistic approach to education that goes beyond content delivery and includes student wellness

and social-emotional development has been seen as an important focus for teacher. The significance of social and emotional learning in higher education is supported by research, which demonstrates that students' social and emotional adjustment is positively associated with academic outcomes such as performance and retention (Valiente et al., 2012; Li et al., 2018).

4. Performance for students

The prediction of academic success is an important aspect of higher education that can benefit both students and universities. By predicting which students are at risk of struggling academically, universities can allocate resources and support services to help those students succeed (Beattie et al., 2018). This not only benefits the students themselves but also contributes to the overall success and reputation of the university.

To predict academic success, universities collect data on their students both before and during their enrollment. The data collected before enrollment is known as enrollment data and includes information such as high school grades, standardized test scores, and personal information such as demographic data. This data is used to determine whether a student meets the criteria for admission to the university and can also be used to predict their likelihood of success. Once students are enrolled, universities continue to collect data on their academic performance, such as grades, course completion rates, and retention rates (MacMillan and Anderson, 2019). This data can be analyzed using statistical techniques to identify patterns and trends that may indicate which students are at risk of struggling academically.

To predict academic success, universities can use statistical methods like regression analysis, decision trees, and neural networks. These methods look at information about students, like their grades, test scores, and background, and use it to create a model that can predict how likely they are to succeed in their studies. This can help universities provide support and resources to students who may need extra help to achieve academic success. Once at-risk students have been identified, universities can allocate resources and support services to help them succeed. This may include tutoring, academic advising, counseling, or other interventions that can help students overcome academic challenges and improve their chances of success. Predicting academic success is an important

aspect of higher education that can benefit both students and universities.

5. Anxiety and student life

University students come from diverse backgrounds and possess varying levels of abilities, aspirations, and expectations. These factors can impact how easily they adjust to college life after leaving high school. One-third of the decrease in faculty graduation rates in recent years can be attributed to an increase in the number of students who have lower levels of academic preparation (Bound and Turner, 2011). The changing demographics of university students may be contributing to a decline in graduation rates. As more students from underrepresented groups or with weaker academic backgrounds pursue higher education, they may face more significant challenges in adjusting to the academic demands and expectations of faculty. This, in turn, can impact their ability to succeed and complete their degree programs. By acknowledging the diversity of backgrounds and experiences that faculty students bring to campus, universities can better support the academic success of all students, regardless of their initial preparation or background (Office of Planning, Evaluation and Policy Development, 2016). Students in university education settings encounter a variety of everyday challenges that can cause stress. These stressors include academic demands, such as assignments, exams, and coursework (Unesco, 2012). It is common for students to report experiencing academic-related stress, including pressure to perform well and fear of receiving poor grades. This stress can be particularly challenging for students who feel like their academic success is linked to their future prospects, such as finding a good job or getting accepted into a preferred university.

Given the prevalence of academic-related stress among students, it is important for educators and support staff to recognize the impact of these stressors on student well-being and academic performance (Barbayannis et al., 2022). By providing resources and support to help students manage and cope with academic-related stress, educators can help students succeed and thrive in their educational pursuits. This may include offering study skills workshops, mental health counseling, and other interventions to support student success and alleviate stress.

6. Research methodology and results

The purpose of this study was to explore how students in higher education perceive their experiences related to evaluation, performance, self-awareness, anxieties, insecurities, and self-management. The study aimed to gain a better understanding of how students perceive the higher education environment and how it impacts their motivation to learn and succeed. Self-reported data was used in this investigation.

The study recruited a total of 163 participants who were students at the Gheorghe Dima National Music Academy. These students were enrolled in both bachelor's and master's level programs and were in their first or second year of study. To collect data, the researchers designed a questionnaire consisting of 26 items that required the participants to make a choice on a five level Likert scale.

The questionnaire was specifically designed to measure the students' perceptions of assessment, performance, anxiety, and self-management. Additionally, demographic data such as age, level of study, and gender were also collected to provide a better understanding of the study population (see tables 1 and 2).

The study used the data obtained from the questionnaire to understand the students' perceptions. Figure 1 shows that there are variations in the means of the responses. Questions 8, 9, and 29 received higher mean scores, indicating that students perceive these aspects positively. In contrast, questions 10 and 27 received lower mean scores, suggesting that students prefer written assessments over online assessments and prefer working in groups rather than individually. These findings provide insight into the students' preferences and attitudes towards different modes of assessment and learning.

Table 1. Age and study level Crosstabulation

		Study level		Total
		Bachelor	Masters	
Age	18 - 24 years old	122	17	139
	25 - 34 years old	5	6	11
	35 - 44 years old	2	6	8
	45 - 54 years old	1	2	3
	above 55 years old	2	0	2
	Total	132	31	163

Table 2. Year of study and Gender Crosstabulation

		Gender		Total
		Female	Male	
Year of study	1	70	40	110
	2	37	16	53
	Total	107	56	163

Figure 1. Assessment from the student's perspective, mean calculations

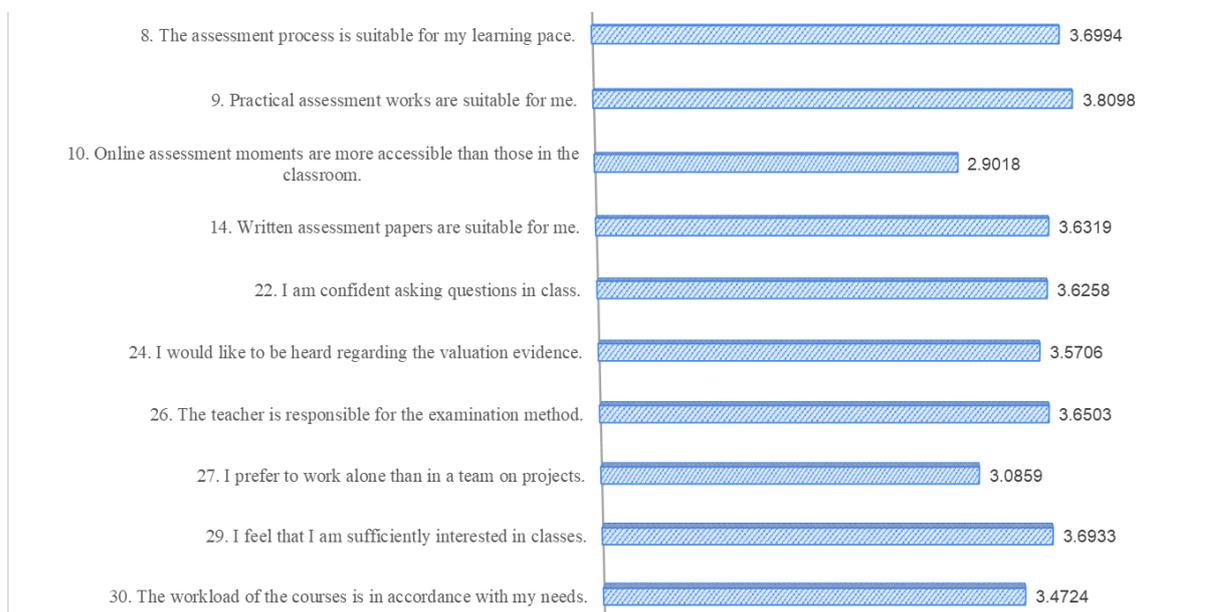| Question	Mean
8. The assessment process is suitable for my learning pace.	3.6994
9. Practical assessment works are suitable for me.	3.8098
10. Online assessment moments are more accessible than those in the classroom.	2.9018
14. Written assessment papers are suitable for me.	3.6319
22. I am confident asking questions in class.	3.6258
24. I would like to be heard regarding the valuation evidence.	3.5706
26. The teacher is responsible for the examination method.	3.6503
27. I prefer to work alone than in a team on projects.	3.0859
29. I feel that I am sufficiently interested in classes.	3.6933
30. The workload of the courses is in accordance with my needs.	3.4724

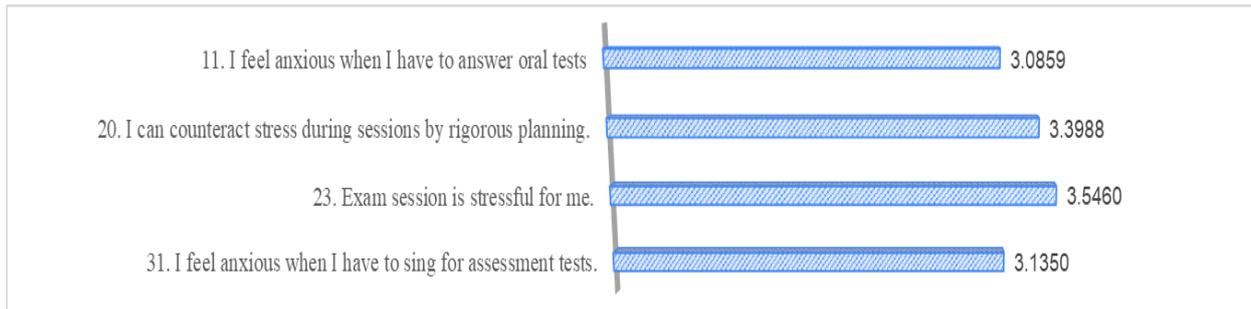Figure 2. Anxiety from the student's perspective, mean calculations

Figure 2 displays the means for the different items related to anxiety in the academic life of the participants. One item that stands out is the mean score of 3.546 for exam sessions, which suggests that the students perceive exams as a significant source of anxiety. This is a common perception among students, as exams are often associated with pressure and stress. Another item that received a relatively high mean score of 3.39 is planning, which implies that students use planning as a strategy to cope with stress and anxiety in their academic life. The item related to oral exams had a lower mean score of 3.08, suggesting that students may find oral exams more challenging and anxiety-provoking compared to other types of assessments. The means obtained from these items provide insights into the perceptions of students regarding anxiety in their academic life, and can inform strategies for managing anxiety and improving academic performance.

Figure 3. Academic performance from the student's perspective, mean calculations
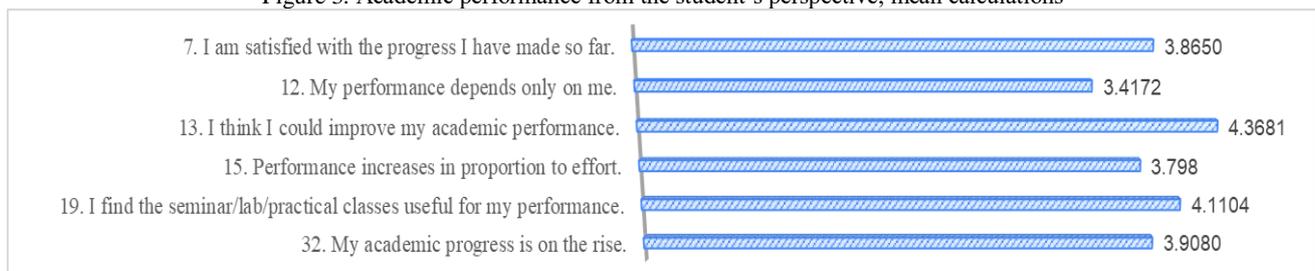

In addition to the items related to assessment and anxiety, the study also aimed to evaluate students' perceptions of their academic performance. Figure 3 displays the means obtained from the students' responses for this category. It can be observed that the students rated highly for improvement of academic performance, with a mean of 4.36. This suggests that the students felt they were making progress in their academic performance and were likely motivated to continue their efforts. Another high mean score was obtained for the usefulness of classes and courses taken during their academic year, with a mean of 4.11. This indicates that the students perceived that the classes and courses they were taking were useful and relevant to their academic goals. The mean score of 3.90 for confidence in their progress suggests that the students felt confident in their ability to succeed academically and were motivated to continue their efforts. The mean score of 3.798 for performance due to efforts suggests that the students believed that their academic performance was a result of their own hard work and effort. This may reflect a growth mindset among the students, as they see their performance as something that can be improved through effort and dedication.

The final item that was evaluated from the students' perspective was self-management, as shown in Figure 4. The means for the responses indicated that students had high levels of confidence in their work (M=3.92), indicating that they were likely satisfied with the quality of their work and believed in their abilities. They also demonstrated moderate levels of goal-setting abilities, with a mean of 3.44, suggesting that they were able to set realistic and achievable goals for themselves.

However, the mean of 2.88 for time management suggests that students struggled with managing their time effectively, perhaps due to having too many responsibilities or struggling to prioritize tasks. Additionally, the mean of 3.29 for self-preparation during exam periods indicates that students may have felt that they did not adequately prepare for exams or were not able to use their time effectively during these periods.

Figure 4. Self-management from the student's perspective, mean calculations
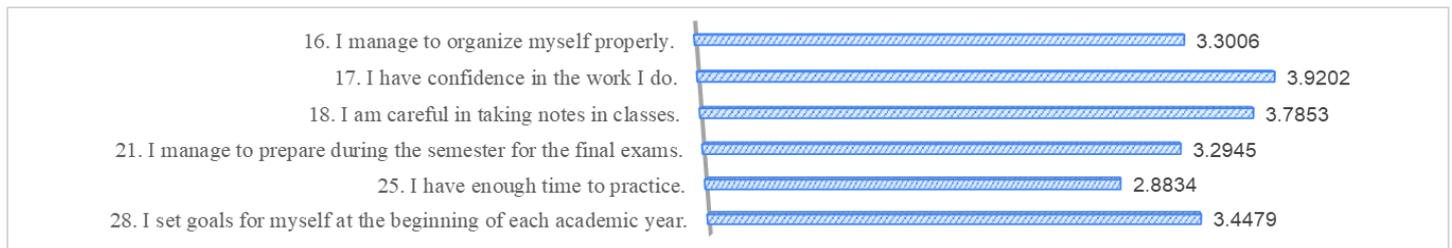
The combined variables which were analyzed were anxiety, performance, assessment and self-evaluation. We performed a one-sample mean test to determine the mean for each of the combined variables that are displayed in table 3.

Table 3. Mean of variables after the combined process

	N	Mean	Std. Deviation	Std. Error Mean
Assessment	163	3.5141	.67411	.05280
Anxiety	163	3.2914	.79313	.06212
Performance	163	3.9110	.77497	.06070
Self-management	163	3.4387	.81375	.06374

For assessment (M=3.51) participants felt moderately positive about their assessment experiences in higher education. They were likely to feel that they were evaluated fairly and accurately. This variable incorporated questions for the assessment process, also online and written assessment, their confidence regarding preparations for evaluation sessions (exams, papers, projects).

Anxiety (M = 3.29): would indicate that, on average, the participants experienced moderate levels of anxiety related to their studies. They may have felt stressed or worried about their academic performance or future prospects. During the exams time students feel a lot more pressure that in the rest of the year, even when they are preparing projects or giving a paper for evaluation, their level of anxiety may rise.

Based on the mean score of 3.91 for performance during their academic year, it can be inferred that, in general, the participants had a positive perception about their academic performance. This suggests that they were likely satisfied with their level of achievement and felt that they were doing well. It is important to note that academic performance is not solely determined by individual effort, but can also be influenced by the effectiveness of the course materials and assessment methods provided by the professors. Therefore, the higher mean score for performance could indicate that the participants felt their efforts were being rewarded, and that improvements in their academic performance may be due to a combination of their own hard work and effective teaching.

The mean score of 3.43 for self-management implies that the participants had moderate proficiency in managing themselves during their academic year. While they may have been capable of organizing and prioritizing their tasks effectively, they may also have faced some difficulties in this regard. Effective note-taking and having sufficient time to practice could be essential prerequisites for good self-management. Additionally, their confidence levels could be an indicator of the self-management skills they developed during their academic year.

7. Discussions and conclusions

The current study explored the perceptions of students in higher education regarding their evaluation experiences, academic performance, anxiety, and self-management. The findings indicate that the participants had positive perceptions of their academic performance, believed that the classes and courses they take are useful, and felt confident in their progress. However, the results also showed that students face challenges in managing their time and preparation during exam periods. Findings suggest that while students had some strengths in self-management, there were also areas in which they could improve. Students may benefit from developing strategies to improve their time management skills, such as creating

schedules or to-do lists, and taking steps to reduce distractions. Additionally, they may need to work on developing more effective study habits to better prepare for exams. Universities should focus on providing students with resources and strategies to improve their self-management skills, such as time management, goal-setting, and stress-reduction techniques.

Moreover, the study found that students preferred written assessments over online assessments and preferred to work in groups rather than alone. It is important for universities to consider these preferences when designing their curricula and assessment methods. Furthermore, the study revealed that students experienced anxiety during exam periods, particularly for oral exams. Thus, universities should prioritize the mental health and well-being of their students by offering support services, such as counseling and therapy, to help students manage their stress and anxiety levels.

This study provides insights into the perceptions of students in higher education and highlights the importance of addressing their needs and preferences. It is crucial for universities to create a supportive and conducive learning environment for students, where they can develop their academic and personal skills while maintaining their mental and emotional well-being.

8. Limitations

The current study provides insights into the perceptions of students in higher education, but there are several limitations that should be acknowledged. First limitation, the study was conducted at a single institution, the Gheorghe Dima National Music Academy, which may limit the generalizability of the findings to other higher education institutions. Different institutions may have unique cultures and academic expectations that could impact student perceptions differently. Second, the study relied on self-reported data collected through a Likert scale questionnaire.

Finally, the study only examined a limited set of variables related to student perceptions in higher education. Other factors, such as social support, access to resources, and extracurricular activities, could also impact student perceptions and academic success. Future research could investigate a wider range of variables to provide a more comprehensive understanding of student experiences in higher education.

Acknowledgments

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