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IMPLEMENTATION OF A CONTEXTUAL TEACHING APPROACH IN PRIMARY SCHOOL EDUCATION

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Abstract/Izvleček

Theoretical discussions and results of empirical research on the contextual approach to teaching and learning point to its effectiveness in realising numerous learning outcomes. The theoretical part of the paper presents the theoretical foundations of the contextual teaching and learning approach, with a focus on constructivist learning theory. The empirical part of the paper presents the results of a study on the implementation of the contextual teaching and learning approach in primary school education from the teachers` perspective. The results indicate that teachers apply the principles of the contextual teaching and learning approach relatively rarely in the teaching process.

Keywords:
Contextual teaching and learning approach, constructivist teaching approach, problem-based and project-based teaching, active forms of work in the classroom, learning outcomes.

Izvajanje kontekstualnega pristopa poučevanja v osnovnošolskem izobraževanju

Teoretične razprave in rezultati empiričnih raziskav kontekstualnega pristopa k poučevanju in učenju kažejo na njegovo učinkovitost pri uresničevanju številnih učnih rezultatov. V teoretičnem delu prispevka so predstavljene teoretične osnove pristopa kontekstualnega poučevanja in učenja s poudarkom na konstruktivistični teoriji učenja. V empiričnem delu prispevka so predstavljeni rezultati študije o uveljavljanju pristopa kontekstualnega poučevanja in učenja v osnovnošolskem izobraževanju z vidika učiteljev. Rezultati kažejo, da učitelji v procesu poučevanja relativno redko uporabljajo načela kontekstualnega pristopa poučevanja in učenja.
Ključne besede: Kontekstualni pristop k poučevanju in učenju, konstruktivistični pristop k poučevanju, problemsko in projektno poučevanje, aktivne oblike dela v razredu, učni rezultati.

Ključne besede:
Kontekstualni pristop k poučevanju in učenju, konstruktivistični pristop k poučevanju, problemsko in projektno poučevanje, aktivne oblike dela v razredu, učni rezultati.

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Introduction

Different attitudes towards learning processes affect the teacher's approach to the selection and preparation of the teaching content, the choice of teaching methods and approaches, and the organisation of the teaching process. Based on an objectivist-technological understanding of learning and teaching, the traditional teaching approach sees the student as a passive recipient of knowledge and the teacher as a source of knowledge in the technological process. In contrast, the subjectivist-interactionist understanding of learning is viewed through a constructivist approach, which is based on the understanding that learning takes place in the process of reconstructing experiences and constructing knowledge through interaction with the environment. Accordingly, the teaching process is understood as an activity that links learning content with real-life contexts with the active participation of students and teachers through various forms of active collaborative learning. A contextual teaching approach makes it possible to establish a link between the teaching content and its application. Research conducted on the contextual teaching approach has generally focused on examining the impact on learning outcomes and student motivation to learn. The analysis of the literature shows that most of the research focuses on the field of natural sciences and mathematics and only partially on the social sciences and humanities. In the Republic of Croatia, similar research on the contextual teaching approach was conducted by Purković (2016) on the application of contextual learning and teaching in the subject of technical culture, by Kovačević et al. (2022) on the way primary school teachers were introduced to the contextual teaching approach, and by Kovačević and Barbir (2022) on the attitudes of early childhood education and teacher education students at the Faculty of Humanities and Social Sciences in Split towards the representation of the contextual teaching approach in higher education. Overall, there is insufficient research on this teaching approach in different subjects. Therefore, a study was conducted on the representation of the contextual teaching approach in the teaching process from the perspective of primary school teachers.

Theoretical framework for the contextual teaching approach

Although most authors affirm the usefulness of the contextual teaching approach, there is still no consensus on its definition. Rather, this teaching approach is conceived as a theory of teaching and professional development (Verbitski, 1987), as a strategy used by students to construct knowledge (Brown, 1998, Crawford, 2001), or as a concept used by teachers to link the teaching content to a range of real-world contexts (Berns and Erickson, 2001). The contextual teaching approach requires students to engage fully in the learning process by working together in a creative and enjoyable atmosphere, using contexts that are as authentic as possible (Komara, 2013; Krisnawati and Swarsih, 2004). It is a teaching approach based on tasks and activities that are relevant to students' everyday lives and implies an inquiry- and problem-based approach to the teaching content, while applying and linking new knowledge to students' previous experiences and new situations (Barbir, 2024). The methodological framework of the contextual teaching approach promotes the development of critical thinking in students (Brown, 1998) as well as authentic learning related to the social and cultural context of the student's environment, assessed on the basis of authentic assessment (Johnson, 2002). The emphasis is on understanding the importance of the teaching content as a whole and not just the content of a single subject, which emphasises a multidisciplinary approach to linking teaching content through multiple contexts (Barbir, 2024). According to Šulentić Begić and Vodopić (2023), "schools should prioritise interdisciplinary learning in the context of correlational, project-based or thematically integrated teaching, which is in many areas more effective than traditional and conventional teaching methods. With this type of teaching, students acquire knowledge that is applicable to different real-life situations and lasts longer than knowledge acquired through traditional teaching methods" (p. 260). It is therefore a holistic approach to learning that directly encourages students to take responsibility for their own learning and construct knowledge that is applicable to real-life problems. Regardless of its basic definition (approach, strategy, and concept), the contextual teaching approach therefore emphasises the importance of using inquiry-, problem- and project-based activities in the implementation of the teaching process.

"All of this is based on the assumption that students become deeply engaged in the learning process when teachers encourage them to develop their own strategies for solving cognitively challenging tasks and building their own understanding of concepts" (Pejić Papak et al. 2021. p. 502). The contextual teaching approach primarily emphasises learning over teaching, affirms self-regulated learning and reduces the dominance of the teacher in the teaching process, based on the principles of constructivist learning theory (Bentley et al., 2000). Accordingly, it requires teachers to organise teaching content appropriately to make scientific, educational, and social contexts as accessible and simple as possible for students. It is the teacher's ability to design the teaching content according to the requirements of the contextual teaching approach that constitutes him/her as a constructivist designer of the teaching process, who assumes a transformative role in the interaction with the student in order to change the student and the environment through learning and teaching (Mušanović, 2001). The contextual approach to learning and teaching is characterised by the fact that it understands learning as a process of knowledge construction that takes place in interaction with others (Barbir, 2024). The fundamental goal of the contextual approach to teaching is the construction of new knowledge that results from active, collaborative learning through research and problem solving using existing knowledge and experience. To achieve this in the teaching process, teachers need to shift the focus of their activities from content and assessment to the student and their understanding (Crawford, 2001), as research findings have shown that traditional teaching approaches to learning and teaching have not met the educational goals defined for the 21st century (National Commission on Mathematics and Science, 2000). In addition, the value of the contextual approach to teaching has been confirmed in the Cone of Experience Theory (Dale, 1969), based on the ideas of John Dewey, which integrates three types of learning: Learning by Abstraction, Learning by Doing, and Learning by Observation. According to this theory, learning is understood as a process of linking needs, experiences and applications of knowledge and skills. The role of the teacher is to facilitate experiential learning and to help the student link existing knowledge and experiences to new content. "The most fundamental factor in ensuring the longevity of what is learnt is the ability to transfer it to the real world" (Özelçi, Y. S., 2023, p. 254.)

Methodological framework

The subject of the research is the implementation of the contextual teaching approach from the perspective of primary school teachers. The research aims to investigate the presentation of the contextual approach in the classroom based on the research question:
To what extent do teachers believe that the contextual approach is represented in practice?

The study, in which 421 primary school teachers from all disciplines participated, was conducted and completed in 2022/23 using a questionnaire that collected data on the socio-demographic characteristics of the respondents and the scale of frequency of implementation of the contextual teaching approach by primary school teachers. The scale is based on the definition of the contextual teaching approach as a constructivist approach to learning and teaching that links teaching content to real-life contexts and enables students to more readily understand the learning content (Johnson, 2002). The scale consists of statements considered most appropriate to test the implementation of the contextual teaching approach. The items on the scale are listed in Tables 1, 2 and 3.
The scale ranged from 1 to 7: 1 – never; 2 – once or twice during the school year; 3 – once or twice during the semester; 4 – several times during the semester; 5 – once a week; 6 – several times a week, and 7 – daily.

Research results

Analysing the results at the scale point level (Table 1) shows that one-third of teachers teach in a way that allows students to apply the lesson content and link it to real-life contexts, while 3% never do so. About 72% of teachers use various real-life examples when explaining the teaching content, and about 70% of them link the teaching content to real-life contexts, while 1% never do so. About 51% of teachers hold lessons several times a week in which they learn about the real world at school, and about 46% do so somewhat less frequently during the school year, while 3% of them never conduct such activities.

These results suggest that teachers endeavour to contextualise the lesson content as often as possible and point out its applicability to real life so that students can easily understand what they are learning (Caine and Caine, 1993). In addition to linking the teaching content to real life, it is also necessary to link it to other previously learned teaching content, which is reflected in the building of knowledge on previous experiences (Lent et al., 2001; Fasheh, 1990). The analysis of the responses revealed that two-thirds of teachers (69%) frequently link current content to previously learned content, while about 31% relatively rarely do this, and only about 2% never conduct lessons in this way. A total of 48% of teachers link content from different subjects relatively frequently in lessons, 35% somewhat less frequently, while about 15% do so daily and 2% never in lessons.

Table 1. Implementation of teaching content

Statements		1	2	3	4	5	6	7	*M*, *SD*
10. The teaching content is linked to real life.	f	3	39	86	134	51	51	57	4.36
	%	0.7	9.3	20.4	31.8	12.1	12.1	13.5	1.53
15. I have encouraged students to link acquired knowledge to other content.	f	9	30	95	118	47	55	67	4.42
	%	2.1	7.1	22.6	28.0	11.2	13.1	15.9	1.61
16. Students can apply acquired knowledge in extracurricular contexts.	f	11	31	86	131	33	57	72	4.43
	%	2.6	7.4	20.4	31.1	7.8	13.5	17.1	1.65
11. I have organised lessons based on the students' real-life experiences.	f	14	38	85	108	48	58	70	4.41
	%	3.3	9.0	20.2	25.7	11.4	13.8	16.6	1.69
24. Students have linked knowledge to real life.	f	12	39	85	131	29	61	64	4.34
	%	2.9	9.3	20.2	31.1	6.9	14.5	15.2	1.65
18. I have shown the students how to apply acquired knowledge to solve a real-life problem.	f	10	36	94	124	53	42	62	4.30
	%	2.4	8.6	22.3	29.5	12.6	10.0	14.7	1.60
19. To explain the teaching content, I have used examples from various real-life situations.	f	7	27	83	116	32	65	91	4.66
	%	1.7	6.4	19.7	27.6	7.6	15.4	21.6	1.68

Since only 15% of teachers teach daily, it is not possible to speak of a practice of interdisciplinary learning that promotes the active acquisition of knowledge, the development of linking strategies and thinking (Sicherl-Kafol, 2002; Marentič-Požarnik, 2008).

In addition, it was found that about 70% of teachers teach in such a way that students can apply the content they have learnt in contexts outside of school. About 20% of them do this somewhat less frequently, 7% rarely, and 3% never carry out such activities in class.

Table 2. Recognition of content in varied contexts

Statements		1	2	3	4	5	6	7	*M, SD*
17. Analogies have been used to explain the teaching content.	f	16	39	84	124	47	63	48	4.25
	%	3.8	9.3	20.0	29.5	11.2	15.0	11.4	1.61
12. Students have been learning that science/art is present in their lives at school and outside of school.	f	12	41	93	101	41	59	74	4.40
	%	2.9	9.7	22.1	24.0	9.7	14.0	17.6	1.72
13. Students have been learning the teaching content which helps them better understand the world outside of school.	f	12	37	91	123	41	41	76	4.36
	%	2.9	8.8	21.6	29.2	9.7	9.7	18.1	1.68
20. Students have been encouraged to apply knowledge in various situations.	f	11	27	101	112	35	49	86	4.48
	%	2.6	6.4	24.0	26.6	8.3	11.6	20.4	1.70
21. Students have been learning to apply the teaching content in various real-life contexts.	f	11	39	104	114	33	50	70	4.30
	%	2.6	9.3	24.7	27.1	7.8	11.9	16.6	1.68
22. Students have been learning to link different teaching content from separate subjects.	f	8	47	101	122	35	47	61	4.22
	%	1.9	11.2	24.0	29.0	8.3	11.2	14.5	1.63
9. Students have been encouraged to recognise a certain problem/topic in multiple real-life situations.	f	9	54	88	127	36	53	54	4.19
	%	2.1	12.8	20.9	30.2	8.6	12.6	12.8	1.62
23. I have delivered lessons by linking the new teaching content to previously learned content in class.	f	8	42	82	109	33	55	92	4.54
	%	1.9	10.0	19.5	25.9	7.8	13.1	21.9	1.74
14. Students have been learning about the real world at school.	f	12	37	90	119	37	57	69	4.38
	%	2.9	8.8	21.4	28.3	8.8	13.5	16.4	1.67

More frequent application of acquired knowledge in out-of-school contexts allows students to engage actively in solving and recognising problematic situations and thus learn the fundamental significance of what they are learning (Crawford, 2001). Accordingly, it was found (Table 3) that about 64% of teachers relatively frequently insist on students` ability to recognise specific problems in real-life contexts, while about 34% do so somewhat less frequently, and 2% never do so.

More frequent encouragement to recognise problems in a range of real-life contexts has a positive effect on the development of student interest in and motivation for the lesson content (Gerlai, 1998).

Table 3. Active forms of teaching

Statements		1	2	3	4	5	6	7	*M, SD*
27. In class, students have been learning that science/art cannot provide answers to all questions and problems.	f	31	71	108	126	31	30	24	3.57
	%	7.4	16.9	25.7	29.9	7.4	7.1	5.7	1.51
28. The students have been learning how the scientific interpretation of problems has changed over time.	f	18	59	122	117	37	36	32	3.79
	%	4.3	14.0	29.0	27.8	8.8	8.5	7.6	1.52
25. Through inquiry, students have provided answers to the teacher's questions.	f	21	67	103	126	30	40	34	3.79
	%	5.0	15.9	24.5	29.9	7.1	9.5	8.1	1.57
26. Students have found answers to questions through inquiry.	f	15	69	122	128	37	31	19	3.65
	%	3.6	16.4	29.0	30.4	8.8	7.4	4.5	1.39
29. Students have been learning to distinguish between modern and traditional understandings of problems.	f	25	50	112	136	25	43	30	3.80
	%	5.9	11.9	26.6	32.3	5.9	10.2	7.1	1.53
30. Students have been learning that the most important thing in understanding certain problems is scientific questioning and searching for answers.	f	17	62	109	125	31	47	30	3.84
	%	4.0	14.7	25.9	29.7	7.4	11.2	7.1	1.53
31. Students have been learning that the same scientific problems are interpreted differently in different cultures and societies.	f	30	56	97	144	30	38	26	3.73
	%	7.1	13.3	23.0	34.2	7.1	9.0	6.2	1.52

It is important not only to encourage students to recognise diverse situations in real life, but also to encourage them to apply the acquired knowledge in multiple real-life contexts. The results of this study show that the majority of teachers – about 63% – do this relatively frequently during lessons, 17% do it daily, while about 34% do it somewhat less frequently, and 3% never do it. In addition, it was found that about 66% of teachers point out the potential for applying the teaching content to solve real-life problems relatively often, 15% of them daily, while 34% of teachers do this relatively rarely, 3% of them never.

Applying acquired knowledge to real-life contexts and identifying problem-based situations can create all the conditions for the development of a rich learning experience that sets the stage for emotional and cognitive engagement in the learning process, which has a direct impact on the deconstruction of existing knowledge and the construction of new knowledge. This process has a direct impact on student perceptions of the multidimensional relationships and connections among the teaching content, their understanding, and the increase in motivation to learn (Watkins et al, 2007; Jelavić, 2008; Cindrić et al, 2010; De Putter Smits, 2012).

The results of this study (Table 4) show that the majority of teachers, about 68%, frequently draw on students' previous out-of-school experiences, of which almost 17% do so daily, while about 32% do so somewhat less frequently, and 3% never do so. In addition, it was found that about 55% of teachers encourage students to answer the teachers' questions through inquiry, and about the same percentage of teachers encourage students to inquire in class, of which only 5% of teachers do so daily. However, this finding suggests that inquiry is not being used sufficiently in the classroom, even though previous studies (Ross and Call-Cummings, 2020; Björklund and Selander, 2022) have shown that the inquiry approach to teaching has a positive impact on learning performance and outcomes. In terms of involving students in the implementation and planning of lesson content and encouraging students to be independent and take responsibility for their own learning, the results show that about 31% of teachers do this relatively frequently, of which only 3% do it daily, while 69% of them practise this teaching approach somewhat less frequently, and 6% never do it. It was also found that 34% of teachers frequently give students the opportunity to participate in the preparation of personal projects in class, of which only 3% do this daily and 4% never.

Only about 35% of teachers tend to let students decide for themselves how to complete tasks, 3% of them daily, while about 5% never do so. The results indicate an underrepresentation of inclusion activities and the development of autonomy in the planning and delivery of lessons. Indeed, research has found that there is a relationship between student independence and self-regulation and intrinsic motivation to self-learn (Stiller and Ryan, 1992; Benware and Deci, 1984), the quality of learning outcomes (Zimmerman, 1986, 2002) and the development of self-regulation in learning (Perry and Hutchinson, 2006).

Table 4. Learning independence and self-regulation

Statements		1	2	3	4	5	6	7	*M, SD*
33. Students have had the opportunity to choose the topics of project-based activities.	f	24	74	114	129	37	29	14	3.53
	%	5.7	17.6	27.1	30.6	8.8	6.9	3.3	1.39
34. Students have had the opportunity to suggest (choose) the lesson content.	f	40	81	101	124	35	27	13	3.39
	%	9.5	19.2	24.0	29.5	8.3	6.4	3.1	1.46
35. Students have been involved in the planning of teaching activities.	f	27	71	117	108	41	37	20	3.61
	%	6.4	16.9	27.8	25.7	9.7	8.8	4.8	1.50
36. Students have participated in the preparation of minor personal projects.	f	16	77	123	143	30	21	11	3.48
	%	3.8	18.3	29.2	34.0	7.1	5.0	2.6	1.27
32. In my class, students have independently decided on the ways of carrying out the tasks.	f	22	59	106	148	38	37	11	3.66
	%	5.2	14.0	25.2	35.2	9.0	8.8	2.6	1.36

Accordingly, teachers who implement such activities less frequently in the classroom have a direct impact on students' lack of creativity, motivation, and initiative (Ryan and Deci, 2000). The results of this research point to the application of prevailing traditional teaching approaches (Purković, 2016; Barendsen and Henze, 2017; Gazibara, 2018). Similar to the results of related studies (Bošnjak, 2009; Jurčić, 2012; Peko and Varga, 2014), they confirm the relative rarity of opportunities for student involvement in the process of lesson planning and delivery.

Overall, the distribution of results according to scale points (Table 3) shows that about two-thirds of teachers do try to link the teaching content to real-life situations and encourage students to apply the knowledge they have acquired to a range of real-life contexts.

The affirmation of teaching approaches that promote collaborative and experiential learning, i.e. the connection between students' experiences and teaching content, has a direct impact on the development of metacognition, creativity and innovation; therefore, such activities should be carried out more frequently in the teaching process (Terhart, 2003; Cindrić et al., 2010; Matijević and Radovanović, 2011).

These results are in line with a similar study (Matijević, 2014), which found that only 25% of the students surveyed participated in some of the group and project work forms. Vrkić Smokić et al. (2022) found that the percentage of teachers trained to promote critical thinking among students was extremely low.

Looking at the responses by scale point, it can be concluded that almost two-thirds of the teachers link the teaching content slightly more often to students' previous experiences and knowledge and that students have the opportunity to link and apply the newly acquired knowledge to new situations and multiple real-life contexts. It is the linking of course content to other contexts that enables a full and meaningful understanding of the subject matter (Shields, 1998). The results indicate that the linking of teaching content with real contexts is achieved more frequently in the teaching process compared to other dimensions investigated. These results are partly consistent with the findings of the study by Karamatić Brčić et al. (2022), which indicates that teaching activities in secondary schools in the Republic of Croatia are planned several times a week based on students' prior knowledge, experiences and interests, and that teachers believe that they often enrich the teaching content with examples from students' lives and their direct experience. A similar result was provided by a survey conducted in 2018 (Dekanić et al., 2020), which showed that, 79% of Croatian teachers most often use real-life problems to illustrate the usefulness of new knowledge, when compared to their use of all teaching methods.

Furthermore, the results of this study indicate that encouraging students to engage in independent research and project-based work is underrepresented in the classroom. This result is consistent with the findings of Markić (2014), which indicate that the direct form of teaching is the most usual form of work, as opposed to working in pairs or groups. The result of this study can be explained by the teachers' need to control the effectiveness of the teaching process and by a personal view of the learning processes in which the traditional (frontal) aspect of the teaching approach still prevails.

This statement can be supported by the results of this study, which showed that teachers do not sufficiently promote student independence, their participation in the planning and implementation of the teaching process, the selection of teaching content, or control over their own learning process. Comparable results were found in other studies (Jurčić, 2012; Peko and Varga, 2014; Anđić and Vidas, 2021; Rašić, 2022; Gumartifa et al, 2023; Adl-Amini et al, 2024), which pointed to the dominant representation of the traditional teaching approach.

All these results emphasise the need to promote student autonomy, to involve them in the planning of the teaching process and the selection of teaching content, but also to adapt the curriculum and didactic materials that ensure the linking of teaching content with real-life contexts.

Conclusion

The results of this study indicate that the current teaching process is still dominated by the traditional teaching approach and the frontal form of teaching and learning. At the same time, they point to the need to promote student involvement in the learning process and the development of self-regulated learning through various active forms of teaching such as collaborative work, problem and project-based teaching, discussion and debate, which contribute to the development of critical thinking, self-confidence and motivation. The results of this research not only provide insights into classroom practice, but also give cause for reflection on the quality of teacher education programmes, professional development programmes and the delivery of subject curricula. Teachers can use these findings to better understand the contextual teaching approach and improve their own teaching practice.

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