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Teachers' Attitudes toward the National Assessment of Knowledge in Third-Grade Mathematics in Slovenia

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National assessment of knowledge (NAK) was introduced into the Slovenian elementary schooling programme with the initiation of the nine-year elementary school in 2001. Based on feedback on student performance, teachers can evaluate the effectiveness of their own teaching and, based on these findings, adapt their teaching methods to the needs of students. NAK is obligatory for all students from the sixth and ninth grade and voluntary for third-grade students, where the school decides about participating. Data from the National Examination Centre show that only a third of Slovenian elementary schools register for NAK in the third grade, hence we wanted to identify the reasons for the low participation. The survey included 114 randomly selected classroom teachers (i.e. teachers from 1st to 5th grade of primary school), who participated by completing an online questionnaire specifically designed for the purpose of this study.. The questionnaire aimed to investigate teachers' attitudes towards the NAK in the 3rd grade, to elucidate the reasons behind the low participation rate of schools in the NAK and the reasons for their non-participation in these assessments. Qualitative and quantitative data analysis revealed that teachers recognize the importance of the feedback provided by the NAK; however, they oppose the mandatory inclusion of NAK in the 3rd grade and the influence of NAK results on students' final grades in the subject (mathematics). The responses also indicate that many teachers had not participated in NAK due to a lack of opportunity rather than opposition to the assessment itself. Among the teachers whose schools opted out of NAK, reasons included perceptions of NAK as useless and unimportant, and concerns about student stress. Additionally, some teachers considered NAK not to be a measure of quality or believed it was implemented too early in the academic year.

Keywords: national assessment of knowledge (NAK), third grade, mathematics, teachers' attitude, Slovenian school system

INTRODUCTION

In Slovenia, NAK is an important element in determining and ensuring the quality of school work. It is obligatory for all students at the end of the sixth and ninth grade and

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voluntary for third-grade students[i]. At the end of the third grade, knowledge of mathematics and Slovenian is tested, at the end of the sixth grade, knowledge of mathematics, Slovenian, and a foreign language is tested, and at the end of the ninth grade, knowledge of mathematics, Slovenian and a third subject is tested, which is determined each year by the minister responsible for education (Izhodišča NPZ v OŠ, 2022).

External knowledge assessment was introduced in Slovenia for the first time in 1992, in eight-year primary schools at the time, with the aim of classifying students upon enrolment in secondary schools, which limited enrolment each year. The results obtained did not affect the students' final grade with a specific subject nor the final certificates issued by elementary schools (Državni izpitni center, 2004). NAK was gradually introduced into the Slovenian schooling system in the 2000/2001 school year with the introduction of the nine-year elementary school. A student's performance in NAK does not affect their final grade for a particular subject, nor the successful completion of elementary school. Achievements in NAK at the end of the ninth grade affect the transition to secondary schools only in the event when several candidates at the lower limit in the selection process have the same sum of final grades from the compulsory subjects in the seventh, eighth and ninth grades (Osnovna šola, 2022).

The base goal of NAK is to determine and ensure the quality of obtained knowledge, learning, and teaching. It is used to verify whether goals and standards of knowledge have been achieved, which are set out in the curricula for each individual subject and has a formative role (Izhodišča NPZ v OŠ, 2022). Achievements reached in NAK are an important element in planning the development of the school, forming the teacher education programme, and for working in professional initiatives. Teachers gain additional information about their students' knowledge and thus critically evaluate their teaching. It should be emphasized, however, that data on the achievements of students in NAK are not intended for direct comparisons between schools and for evaluating the quality of individual schools, individual principals or individual teachers (64. člen ZOsn-D, 2005; Izhodišča NPZ v OŠ, 2022).

Theoretical Framework

National Assessment of Knowledge in Mathematics in the Third Grade

In the school years from 2001 to 2005, NAK in the third grade was implemented in two parts, namely first the oral part and then the written part in both mathematics and Slovenian. With the school year 2005/2006, NAK was abolished at the end of the 3rd grade[ii]. From the reports, it can be concluded that the reason for the abolition was the growing number of sixth and ninth-grade students who joined NAK through the gradual introduction of nine-year primary school (Državni izpitni center, 2006).

In 2018, a trial NAK was conducted again at the end of the third grade. Cooperation was voluntary and only the written part took place. Schools that decided to cooperate had to apply all third-grade students, who had to do the assessments for mathematics and the Slovenian language.

In the 2017/2018 school year, 111 schools with 4,418 students applied for the assessment, which represents slightly less than a quarter of primary schools with Slovenian as the language of instruction (Blagotinšek and Masterl, 2018). Each subsequent year, more schools have applied for NAK in the third grade, as can be seen in Table 1, but this still represents about a third of all primary schools.

Table 1
Number of applied schools and students between 2017 and 2021 (adapted from: Vitez, 2022b)

School year	Number of applied schools	Percentage of applied schools**	Number of applied students	Percentage of applied students***
2017/2018	111	24,34%	4418	20,30%
2018/2019	131	28,72%	5479	24,42%
2019/2020*	/		/	
2020/2021	142	31,14%	5715	25,88%
2021/2022	177	38,81%	6786	32,00%

* In 2020, NAK was not implemented due to the declaration of the Covid-19 epidemic.
** According to the Ministry of Education, there are 456 primary schools in Slovenia.
*** The number of students in the 3rd grade is calculated from Statistical Office of the Republic of Slovenia: https://pxweb.stat.si/SiStatData/pxweb/sl/Data/-/0952724S.px/table/tableViewLayout2/

NAK in the third grade is held at the end of March, where students write mathematics in one day and Slovenian the next day. As stated in the Results Analysis (Lipovec et al., 2022), mathematics assessment includes the objectives of the curriculum, covering the basics of mathematical topics foreseen for the first cycle of elementary school, where the content of the assessment is selected in accordance with the agreed structure of the assessment for the third grade (60% arithmetic and algebra, 20% geometry and measurement, and 20% other content). The assessment contains tasks of different taxonomic levels according to Gagne's taxonomy, which is used in the Slovenian area for the classification of mathematical tasks (1 – knowledge and understanding of concepts and facts, 2 – implementation of routine procedures, 3 – use of complex procedures, 4 – solving and researching problems). The average achievement of items in tasks that test knowledge at the first taxonomic level was 55%, at the second 56%, at the third 46% and at the fourth 33% (in the school year 2021/22) (ibid.). The National Examination Centre[iii] (Državni izpitni center) conducted a survey to obtain teachers' opinions on the trial national assessments at the end of the third grade of primary school, which were administered in 2019 and 2021. Approximately half of the teachers included in the survey stated that NAK for mathematics is too difficult, whereas the other half felt it is adequately difficult and at the appropriate level. Teachers stated that NAK for mathematics in the third grade is too extensive and that there are too many tasks at the higher taxonomic level and the fact that the test does not include enough tasks for checking basic knowledge standards (Blagotinšek, 2019; Vitez, 2021). Third-grade students frequently develop basic mathematical skills and forming a foundational understanding (Doz et al., 2024). The referenced studies are an important foundation for our research, as they indirectly reveal the attitudes of Slovenian teachers towards the National Assessment of Knowledge (NAK).

It is important that NAK does not only test the minimum knowledge standards, as was demonstrated in the USA in the 1970s when they introduced national knowledge assessments that only tested the minimum abilities of students (Shepard, 1991). Less than a decade later, these tests were rejected, concluding that "the minimum becomes the maximum," meaning that educational standards for all are lowered (Shepard, 1991) and as Cullinanea and Liston (2016) review found, examinations that only test knowledge at lower taxonomic levels encourage rote learning and repetition of facts that require little or no understanding. In addition, Ormond (2019) and Shafiyeva (2021) note that standardized tests often lead to a narrowing of curriculum content and reduce opportunities for students to develop critical thinking skills. These examples demonstrates that we need to test students' routine skills as well as thinking at higher taxonomic levels, such as inference. Doz et al. (2004) highlight that implementing problem based tasks enables us to evaluate how students expanding on their current knowledge and apply it to more complex problems. The emphasis with NAK lies in the routine and complex procedural knowledge (Izhodišča NPZ v OŠ, 2022). By encouraging students to use mathematical knowledge, we develop mathematical competencies that include mathematical thinking, and mathematical literacy, and we can emphasize the role that mathematics plays in everyday life, which is the general goal of mathematics lessons in primary school (Učni načrt za matematiko, 2011). It is important that assessment is designed to include questions at higher taxonomic levels, which evaluate students' abilities to analyse, synthesise, and evaluate information, rather than simply reproduce facts. *Teachers' Perspectives on National Assessments*

Teachers check and evaluate the students' knowledge on a daily basis, thereby obtaining feedback on the knowledge and understanding of the content defined in the curricula. Most believe that monitoring student progress is important and that it is one of the fundamental duties and responsibilities of every teacher (Buck et al., 2010). Despite all of this, numerous teachers object to NAK (Buck et al., 2010, Gail Jones et al., 1999), some even have a negative attitude toward this type of assessment in general (Vitez, 2022a; Vitez, 2021; Blagotinšek, 2019). Buck et al. (2010) reviewed articles in three pedagogic journals published between 2005 and 2010 and found that there are nine times more articles objecting to these types of assessment than those that approve or have a positive perspective towards it. Opponents of national assessments believe that they force teachers to spend more time preparing for tests and thereby abandon creative teaching (ibid.). González et al. (2024) showed that the teachers' assessment practices were even shifted from using various assessment methods to limited assessment methods due to the assessing policy. However, it is not clear why national assessments would have a negative impact on the teachers' work since these assessments are meant to verify goals and standards of knowledge outlined in the curricula, which should be followed by teachers in their work. In this sense, national knowledge assessments should not inhibit the teacher's creativity. Buck et al. (2010) find that teachers agree that these assessments promote cooperation between teachers, as they have a common goal.

Teachers also report spending a lot of time preparing for such assessments which takes away from regular instruction (Allington & McGill-Franzen 1992; Blazar & Pollard, 2017; Gail Jones et al., 1999; Smith & Rottenberg, 1991; Tóth, 2015; Tóth & Csapó, 2022). They prepare the students by solving tasks from previous national assessments

during class (Blazar & Pollard, 2017; Gail Jones et al., 1999) and by teaching mechanics of test-taking (Blazar & Pollard, 2017). This approach limits student learning, as such test preparation is significantly and negatively related to instructional quality (Blazar & Pollard, 2017; Gere et al. 2014). It would be sensible for teachers to use examples of tasks and similar mathematical problems as are used in national assessments in dealing with new topics in class, with revising and verifying knowledge, with homework etc. and integrate such tasks into their regular instruction.

Many teachers believe that NAK has a negative impact on the students since they seem to be less confident and more worried (Brockmeier et al., 2014; Gail Jones et al., 1999, Rice et al., 2016; Wisdom, 2018). Teachers check and evaluate the students' knowledge on a daily basis, so the question is why would national knowledge assessments cause more anxiety than the teacher's tests. On the other hand, research suggests that teachers believe their students and parents usually have a positive attitude toward NAK (Blagotinšek, 2019; Vitez, 2022a), which is contrary to what the teachers seem to believe, which is the fact that national assessments impact their students negatively.

The (poor) performance of their students on external assessments makes teachers feel anxious, under pressure, guilty and sometimes even embarrassed (Jerrim et al., 2024; Smith, 1991; Vértiz-Osores et al., 2019). Even teachers whose students are successful on external assessments feel anxious because they feel pressure from the principal to maintain high results or increase them compared to the previous year (Smith, 1991) or their salary partly depends on it (Hatch, 2013 in Werler and Klepstad Færevaag, 2017). The pressure experienced by teachers is not necessarily correlated with school performance levels but rather with the school's response to accountability measures (Browes, 2021). Some teachers feel pressured because they understand NAK as excessive control over their work (Blagotinšek, 2019) even though data on results obtained by the students cannot be used to evaluate the quality of work for a particular school, principal, or even teacher (Izhodišča NPZ v OŠ, 2022). Similarly, Narathakoon (2020) showed that national testing puts pressure on teachers' practice.

Many teachers believe that students' achievements on the national knowledge assessments are not a reflection of their teaching but depend on the socio-economic status of the students (Setnikar Cankar et al., 2015), as well as external influences such as anxiety, indifference, etc. (Semen, 2021). It is due to the latter that teachers suggest that NAK should influence the grade for that subject in school (Blagotinšek, 2019). Similar disinterest by the parents and the low level of motivation in students has been noted by many principals (especially with ninth-grade students), which is why they suggest that the results should be taken into account for the final school grade and the enrolment into secondary schools (Semen, 2021). In the research, Doz & Doz (2021) found that the students also claim, that they would put more effort into the national assessment if influence their final grading.

Based on the reviewed literature, we note that experts, as well as teachers, have very different opinions, principles and attitudes towards national assessments. Taking into account that in Slovenia NAK at the end of the third grade has only been implemented again for a few years and that participation is voluntary, we wanted to investigate the attitude of teachers towards NAK after the first educational period.

The Purpose of the Study

The main purpose of the research was to find out the attitude of teachers towards NAK in the third grade in general and for mathematics, and the reasons why schools or teachers do not take the mentioned knowledge assessment.

Research Questions

1. What are the teachers' attitudes towards NAK in the third grade of elementary school?
2. What are the reasons schools and teachers decide against taking NAK in the third grade of elementary school?
3. How do teachers take NAK results into account in their teaching?

METHOD

Participants

The survey was completed by 114 classroom teachers[iv], of whom 111 were female teachers and 3 male teachers. The average age of the respondents was 43.5 years (with the lowest age being 23 and the highest being 62). The teachers had an average of 18 years of working experience as a teacher (the minimum working time was 1 year and the maximum 40 years). In the school year 2021/22, when they filled out the survey, the surveyed teachers taught in different classes (Table 2), namely 19% of them taught in the first grade, 12% in the second grade, 33% in the third grade and 18% each in the fourth and fifth grade. The majority of teachers (61%) completed the university pre-Bologna study programme for elementary school teachers and the Bologna master's study program for elementary school teachers (19%).

Table 2
Number of teachers surveyed by teaching grade in the school year 2021-22

Teaching class	Numbers of teachers	Percentage
1st Grade	22	19%
2nd Grade	14	12%
3rd Grade	36	33%
4th Grade	21	18%
5th Grade	21	18%
Total	114	100%

Collection and Processing of Data

The questionnaire was prepared specifically for this study. The questionnaire consisted of 6 demographic questions, followed by statements designed to evaluate teachers' perspectives on the NAK in the 3rd grade. Some of these statements were partly adapted from the work of Blagotinšek (2019) and Vitez (2022a), while others were created based on theoretical principles. Then, there was a question that defined teachers who had previously participated in the NAK and those who had not. Teachers who had not participated answered an open question about why they had not participated. Those who had participated in the NAK in the 3rd grade responded to questions about their methods for preparing students for the NAK in mathematics, how they adapt their teaching practices based on students' results, and indicated their level of agreement with various aspects of the NAK in mathematics for the 3rd grade (with statements adapted from Blagotinšek (2019) and Vitez (2022a)).

The survey was sent to the principals of 21 randomly selected elementary schools in Slovenia with a request that they forward the survey to classroom teachers. Due to the poor response to filling out the survey, we also invited the respondents to participate via social networks, which are intended for first and second cycle teachers. 438 teachers read the survey invitation, but only 114 teachers completed the survey in its entirety, despite being informed that it would take no more than five minutes to complete it. Respondents were guaranteed anonymity by completing the survey voluntarily and anonymously via a web link, so the consent of the Ethics Committee was not required. The data obtained from the survey questionnaire were analyzed using both quantitative and qualitative methods. For the quantitative analysis, we utilized SPSS 29.0.0. software to perform statistical analyses, with results presented descriptively. The responses to the open-ended questions were manually coded, following a systematic coding scheme to identify recurring themes and patterns. Manual coding is particularly advantageous in smaller-scale studies where the deep engagement of the researcher with the data is crucial for uncovering insights that align closely with the specific research context (Williams & Moser, 2019).

Finding and Discussion

The results and analysis are given for each research question individually.

Teachers' attitudes toward the national assessment of knowledge in third-grade mathematics. All teachers (N = 114) answered the questions about attitudes towards NAK in general and the questions about attitudes towards NAK in mathematics in the 3rd grade on a five-point scale from “completely disagree” (1) to “completely agree” (5) (Table 3).

Table 3
Teachers’ attitudes towards NAK in general and for mathematics in the third grade

	1	2	3	4	5	Total	M	SD
NAK results prove to be useful feedback for teachers	7 6.1%	12 10.5%	32 28.1%	44 38.6%	19 16.7%	114	3.49	1.083
It would be welcomed if the school organises training for teachers regarding the tasks that appear in NAK.	11 9.6%	17 14.9%	20 17.5%	44 38.6%	22 19.3%	114	3.43	1.234
It is necessary to prepare students for NAK beforehand.	5 4.4%	12 10.5%	17 14.9%	50 43.9%	30 26.3%	114	3.77	1.089
For students, it would be good to organize additional lessons to prepare for NAK in the third grade.	31 27.2%	31 27.2%	19 16.7%	25 21.9%	8 7.0%	114	2.54	1.291
NAK examines the contents that are linked to the curriculum.	2 1.8%	9 7.9%	29 25.4%	52 45.6%	22 19.3%	114	3.73	0.924
Students' achievements in NAK should influence their final grade in mathematics.	30 26.3%	35 30.7	25 21.9%	17 14.9%	7 6.1%	114	2.44	1.205
NAK should also be compulsory at the end of the third grade.	37 32.5%	29 25.4%	23 20.2%	12 10.5%	13 11.4%	114	2.43	1.343

Table 3 shows the level of agreement with the statement that the results achieved by students in NAK are useful feedback for teachers; 55.3% of teachers agreed or strongly agreed, while 28.1% could not decide whether they agreed or disagreed with the statement, and the rest disagreed with the statement. The surveyed teachers therefore

mainly agree on the usefulness of feedback NAK provides. Research on NAK testing reveals mixed perceptions among teachers regarding its utility as feedback. While some teachers report using test results to inform instructional and assessment practices (Vitez, 2021; Blagotinšek, 2019), others feel that such tests have limited impact on their teaching and are primarily administrative exercises (Smith & Kubacka, 2017). Teachers acknowledge some benefits of high-stakes testing, such as allowing student comparison, but many believe the weaknesses outweigh the advantages (Gunn et al., 2016).

The majority of teachers also agreed or completely agreed (57.9%) with the statement that they would like additional education regarding the tasks that appear in NAK. In all likelihood, additional education would prevent teachers from experiencing added stress around NAK, which was mentioned in different research (Vitez, 2021; Smith, 1991), it would also help implement changes in teaching based on the results obtained, it would aid to further understand the purpose of NAK (Werler and Klepstad Færevaag, 2017), and it would facilitate evaluation according to pre-determined criteria outlined by the National Examination Centre.

The majority of teachers agreed or completely agreed (70.2%) that it is necessary to prepare students for NAK, on the other hand, the majority of teachers did not agree or completely disagreed (54.4%) that the preparation for it should be done during supplementary lessons. From this, we can conclude that students are being prepared for NAK during regular mathematics lessons, which is also consistent with research in which teachers report that they spend a lot of time preparing for national assessments, which is taken away from regular lessons (Gail Jones et al., 1999, Smith and Rottenberg, 1991, Allington and McGill-Franzen, 1992). The diversion of regular lesson time to NAK preparation raises concerns about the overall instructional quality and the breadth of the curriculum being covered. Furthermore, the necessity to integrate test preparation into regular lessons may reflect teachers' perception of the NAK. This perception can lead to a narrowed curricular focus (Blazar & Pollard, 2016), where teaching "to the test" becomes a priority over a more holistic educational approach (Gere et al., 2014). The implications of this trend are significant, as it may not only impact the depth of students' understanding and engagement with the mathematics but also their overall learning experience.

Most teachers agreed or completely agreed (64.9%) that the NAK is aimed at assessing topics related to the curriculum. However, it is not completely clear why teachers feel the need to prepare students additionally for national assessments, given that the objectives and standards of knowledge assessed are already covered through mathematical content in regular lessons. There is discrepancy between teacher-made tests, which typically require lower-level reasoning, and national tests, which demand more complex mathematical thinking (Palm et al., 2011). It is important to emphasize that it is frequently overlooked that a test assesses merely a sample of students' knowledge and skills in a specific subject. The validity of test results may be compromised if instruction is overly focused on the particular test, resulting in artificially elevated scores that do not reflect genuine enhancement of the broader academic skills that the test is designed to measure (NRC, 2007). We can certainly seek explanations for this phenomenon in the sense of responsibility that teachers feel for their students' success on the NAK.

The majority of teachers did not agree or completely disagreed (57.0%) with the statement that it would be reasonable for the student's achievements in NAK to influence the final grade in the subject (mathematics). The results obtained in national assessments do not influence the final grade in the subjects at any level of education in elementary schools in Slovenia. Similar is true for the majority of European member countries, such as Denmark, Ireland, Sweden, Hungary, and France, ... (Slavec Gornik, 2010). On the other hand, the principals in Slovenia wish that the results obtained in national assessments would be more valid (Janet, 2022). They suggest that the results would influence the final grades and also prove a valid measure for enrolment in secondary schools (ibid.). In particular, students in higher grades are less motivated to succeed in national assessments (LaFave et al., 2022; Paris et al., 1991). It would make sense to investigate and find out whether taking NAK results into account for the final grades would encourage students to demonstrate their true knowledge in NAK, as opponents of national assessments point to the stress and anxiety that accompany said testing and, consequently, often result in lower achievements, reduced social functioning, and a lower sense of self-worth (Fleege, 1992; Paris 1991).

The majority of teachers did not agree or completely disagreed (57.9%) that NAK (in mathematics) should be compulsory in the third grade. The results of the research, where only teachers who participated in the trial assessments of knowledge in the third grade of elementary school in 2022, show the exact opposite - the majority of teachers believe that the introduction of compulsory NAK in the third grade makes sense and is useful because it gives the student and the teacher additional information about the student's knowledge (Vitez, 2022a), which indicates that teachers who have already participated in NAK in the third grade have positive experiences.

Reasons for non-participation in NAK in the third grade of elementary school. In our research, out of the 114 surveyed, only 38 (33%) classroom teachers had previously participated in NAK in the third grade of primary school, while 76 (67%) teachers had never participated in the aforementioned testing. As noted earlier, despite 438 teachers reading the survey invitation, only 114 teachers completed the survey in its entirety, and among them, only a third had participated in NAK. This low response rate, coupled with the fact that only a minority of respondents had experience with NAK, may indicate a general disinterest or negative attitude towards NAK among teachers. Studies reveal that teachers believe the weaknesses of such testing outweigh the benefits, citing pressures and questioning the validity of tests in assessing student knowledge (Gunn et al., 2016; Reese et al., 2004). Moreover, Vitez (2022a) presented interesting findings that a significant proportion (36.88%) of teachers reported they were registered for NAK by the headteacher without prior consultation. This suggests an administrative influence on participation decisions that may override individual teacher preferences. To understand the reasons for non-cooperation in NAK among the 76 teachers who had never participated, we asked them an open question. We encoded all the responses into three categories:

I. “I have not taught third grade yet.”
II. “The school did not decide to participate in NAK.”
III. “When I taught third grade, NAK was not carried out.”

Eight teachers did not answer this question. The majority of non-participating teachers (40) indicated they had not yet taught the third grade (category I), followed by 20 teachers who stated that their schools did not decide to participate in NAK (category II). Category III consists of 8 teachers.

According to the responses from the teachers in categories I and III, we can conclude that non-participation is largely due to the lack of opportunity to participate in NAK. Whether these teachers desired to participate in NAK remains unknown.

Among the teachers in category II, several provided specific reasons for their school's decision not to participate: four respondents believed that NAK is useless and unimportant, three respondents thought that NAK is too stressful for students, indicating that only a small proportion of teachers perceive NAK as a stressful situation for students. Additionally, some teachers mentioned other reasons such as "NAK is not a measure of quality." and "NAK is implemented too early[v], which is why we implement it later to obtain feedback for ourselves." (one teacher). Similar findings have been reported in research conducted by the National Examination Centre (Vitez, 2022a), even though it only included teachers who have participated in NAK. The research also revealed that teachers' attitudes towards NAK are not uniform. Despite this variability, most teachers express a generally positive attitude towards NAK and value the feedback it provides for their work.

Impact of NAK results on teaching. In our survey, we asked 38 teachers who had previously participated in NAK in the third grade about their awareness and utilization of the thorough report on results issued by the National Examination Commission. The majority of the teachers (84.0%) were aware of the report. Among these, 44.0% skimmed through it while 38.0% read it in detail. Only a few teachers did not read the report extensively.

A significant majority of these teachers (95.0%) reported that they did an analysis of the results obtained in NAK by their students, but the analysis alone is not nearly enough. Therefore, we explored whether teachers implement changes to their teaching based on these analyses and, if so, what kind of changes they make. Two-thirds of the respondents claimed that they try to implement changes following their analysis of NAK results. These changes primarily involve incorporating NAK-type exercises in their teaching, assigned homework, and tests. Conversely, one-third of the teachers did not implement any changes. This could imply contentment with the NAK results or a lack of understanding of what changes would be necessary, as mentioned by Werler and Klepstad Færevaag (2017).

Furthermore, we examined how teachers interact with their colleagues and principals regarding the NAK results. We asked teachers to rate statements related to student achievements and preparation for NAK using a five-point scale, from "completely disagree" (1) to "completely agree" (5). The results are summarized in Table 4.

Table 4
Degree of agreement with NAK statements by teachers who have already participated in NAK in the third grade

	1	2	3	4	5	N	M	SD
I discuss the achievements obtained by my students in NAK with my colleagues.	0 0%	1 2.6%	4 10.5%	23 60.5%	10 26.3%	38	4.11	0.689
I discuss the achievements obtained by my students in NAK with the school principal.	3 7.9%	1 2.6%	5 13.2%	20 52.6%	9 23.7%	38	3.82	1.087
In order for students to be more successful in NAK, I offer students several exercises from old tests and/or similar exercises.	2 5.3%	3 7.9%	4 10.5%	21 55.3%	8 21.1%	38	3.79	1.044
I organize additional lessons to prepare for NAK in mathematics.	7 18.4 %	9 23.7 %	7 18.4%	11 28.9%	4 10.5%	38	2.89	1.311
Before conducting NAK, I include solving tasks similar to those from NAK in mathematics lessons.	3 7.9%	2 5.3%	3 7.9%	22 57.9%	8 21.1%	38	3.79	1.094

A high percentage of teachers (86.8%) discuss their students' NAK achievements with colleagues, and a slightly smaller percentage of teachers (76.3%) also discuss the achievements with their school principal (Table 4). NAK has a formative role and is intended to enhance the quality of teaching. By discussing their students' achievements with colleagues and the principal, teachers gain valuable insights into their instructional practices. This collaboration allows them to consult with each other on strategies to improve teaching quality and assessment methods. The formative role of NAK should be of central importance, as McMillan (2005) states that external assessments foster collaboration among teachers and promote a focus on formative assessment in the classroom. This collaborative environment can lead to the exchange of best practices and refinement of instructional strategies, ultimately benefiting students' learning experiences. Teachers often use test results to inform their instructional changes, particularly those aimed at enhancing the depth of learning and fostering higher-level cognitive skills (McMillan, 2005).

However, it is crucial to acknowledge potential downsides. The emphasis on testing can lead to curriculum narrowing and a more teacher-centered pedagogy (Blazar & Pollard, 2016; Gere et al., 2014). When educators prioritize test preparation, they may inadvertently limit the breadth of the curriculum, focusing primarily on areas that will be assessed rather than fostering a comprehensive educational experience. This could result in students missing out on essential skills that are not directly tested but are vital for their overall development.

Teachers rated the following statement with a high average value “In order for students to be more successful at the NAK, I offer students several exercises from old tests and/or similar exercises.” (M = 3.79, SD = 1.044). This finding is consistent with previous research (Gail Jones et al., 1999), suggesting that preparation using past test exercises is a common practice. However, Haladyna et al. (1991) point out that preparing students for the national assessment by solving the tasks from older tests in class changes the meaning and validity of the results of those assessments and,

according to Werler and Klepstad Færevaag (2017), further increases the reproducibility of knowledge.

From this, we can infer that teachers believe success in NAK is heavily influenced by familiarity with specific types of tasks. However, teaching towards a test or teaching in such a way that students achieve the highest possible results on national assessments can inhibit the teachers' ability to creatively plan and think (Gail Jones et al. 1999) and the development of critical thinking and imagination in students (Shapiro, 2004). Despite the inclusion of higher-order thinking tasks, this emphasis on test preparation can lead to mechanical instruction that prioritizes rote learning and drilling over meaningful engagement with critical thinking skills (Zohar & Alboher Agmon, 2018). The last two statements are about different methods of preparing students for NAK. Most of the teachers, before implementing NAK, include solving tasks similar to those from NAK in mathematics lessons (M = 3.79, SD = 1.094). 79.0% of the respondents agreed or completely agreed with this statement. Much fewer teachers organise supplementary lessons to prepare for NAK (M = 2.89, SD = 1.311), as 39.4% of teachers agreed or completely agreed with this statement. We deduce that the majority of the teachers take away time from regular lessons to prepare for NAK and preparation for NAK also affects the methods of teaching and learning. Similar conclusions were also reached in the study by Abrams et al (2003), where teachers reported spending extra time preparing pupils specifically for national tests. At this point, we have to ask ourselves about the purpose of mathematics education and NAK, because the goal of education is not only to prepare students to be excellent "test takers", but also to develop mathematical competencies.

CONCLUSION

Standardized national tests, such as the National Assessment of Knowledge (NAK), serve a critical function in comparing student achievement across classrooms, schools, districts, or across various time periods. When combined with other sources, these assessments can provide educators and policymakers with directed insights on resource allocation and instructional improvement (NRC, 2007). Reliable information about students' knowledge is important for the effective implementation of planned educational policies and practices. Over the past three decades, national assessments have emerged as vital instruments for establishing benchmarks for educational achievement across most European countries (Slavec Gornik, 2010).

The findings from this research illuminate the attitudes of teachers toward the National Assessment of Knowledge (NAK) in the third grade, particularly in relation to the reasons why schools and teachers choose not to include students in this assessment. While standardized national assessments like NAK serve critical functions in comparing student achievement and informing educational practices, our data reveal significant concerns among educators regarding its implementation.

A notable portion of teachers, specifically 67% of our respondents, indicated that they have never participated in NAK. The responses highlighted several underlying reasons for this non-participation. A significant number of teachers stated they had not taught third grade yet, while others noted that their schools did not opt to participate in NAK.

This suggests that external administrative decisions, coupled with limited teaching opportunities, significantly impact teachers' involvement in assessments.

The results of national assessments provide useful feedback to the principals and teachers regarding the adequacy of didactic methods for developing specific student skills, which our respondents also agree with. Even though the results obtained in NAK do not influence the students' final grade, most teachers think that students need to be prepared for NAK. The excessive focus on assessment preparation in regular mathematics lessons raises concerns about the overall quality of education. In regular mathematics lessons teachers dedicate a lot of time to prepare for national assessments, but increasing the workload regarding the testing does not provide the necessary improvements in mathematics lessons and does not improve the quality of elementary school education in Slovenia. This points to a pressing need for further investigation into the underlying reasons why teachers feel compelled to prepare their students for national assessments.

Moreover, the data reveal that two-thirds of the surveyed teachers who have not yet participated in NAK express support for school policies that do not mandate its implementation in the third grade. Some teachers even exhibit a negative disposition towards NAK. To address and potentially alter these perspectives, it is essential to engage teachers in the process of designing national assessments, implementing assessments, developing evaluation criteria, analyzing results, and formulating pedagogical strategies. This collaborative approach can enhance teacher investment and potentially yield a stronger alignment between classroom assessments and national standards.

Our analysis highlighted that the reports issued by the National Examination Commission are often read superficially by teachers. Teachers strive to adjust their instructional practices based on test results by including NAK-type exercises in their teaching, assigned homework, and tests. They should use the feedback as much as possible and, based on it, plan didactic methods that enable higher quality teaching, but here the question arises whether teachers know what should be changed in their own teaching since many factors can affect the results. It is reasonable to encourage teachers to discuss the achievements obtained by their students in NAK with their colleagues and the principal as well as representatives of the school's policy, thus jointly looking for solutions to make education more efficient and qualitative.

The majority of teachers also expressed the need for further training regarding the tasks included in NAK, which could alleviate some of the stress associated with high-stakes testing. This suggests that enhancing teacher understanding and preparation could improve perceptions surrounding NAK and support its formative potential.

Testing programs should be evaluated to see if they are achieving their stated purpose. As part of the evaluation, consequences, both positive or intended and negative or unintended, should be carefully monitored and weighed. Tests, need to be studied for their impact on particular groups of test takers (NRC, 2007).

The Limitation of the Study

This study acknowledges certain limitations, particularly in its participant selection. Future research should also include teachers who have had the opportunity to conduct NAK in the third grade but have chosen not to participate. Understanding their motivations and concerns could provide deeper insights into the challenges surrounding national assessments and enhance educational practices.

A review of the existing literature, much of which is dated, reveals a scarcity of recent research concerning teachers' attitudes towards national assessments and their practical implications in the classroom. Future research should focus on conducting more comprehensive studies that analyze current perspectives and best practices associated with NAK.

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[i] Compulsory basic education in Slovenia is organized in a single-structure nine-year basic school attended by pupils aged 6 to 15 years. Basic education is divided into three educational cycles. The first cycle lasts from 1st to 3rd grade, the second from 4th to 6th grade, and the third from 7th to 9th grade.

[ii] The amendment and abolition of NAK in the third grade was written into Article 64 of the Act on Amendments to the Elementary School Act (2005): "At the end of the second and third periods, students' knowledge is tested with a national knowledge assessment ... (the first period is no longer mentioned).

[iii] The National Examination Centre (Državni izpitni center) is a public institution established by the Government of the Republic of Slovenia with the aim of involving experts with subject-specific and other committees in the preparation of examination catalogues and materials, as well as in the implementation of national assessment.

[iv] From the 1st to the 5th grade, the compulsory program is taught by a teacher who is a professor of classroom instruction, i.e. classroom teacher. The 6th grade is taught by a subject teacher, but it can also be a classroom teacher. In the third cycle of basic education, subject teachers teach.

[v]NAK in the third grade is carried out at the end of March when not all topics outlined for the third grade have been covered.