IMPLEMENTATION OF CURRICULAR REQUIREMENTS IN PRIMARY EDUCATION: AN ANALYSIS OF PLANNING, TEACHING PRACTICES, AND ASSESSMENT BASED ON TEACHERS' REPORTS

Arbresha ZENKI-DALIPI, Lulzim MEHMEDI, Makfirete AMETI, Rabije OSMANI

University of Tetovo -Tetovo, Republic of North Macedonia, rabije.osmani@unite.edu.mk
arbresha.zenki@unite.edu.mk, lulzim.mehmedi@unite.edu.mk, makfirete.ameti@unite.edu.mk

Abstract

This study examines the relationship between the intended primary education curriculum in the Republic of North Macedonia and its implementation in teaching practice, based on reports from teachers—by analyzing three fundamental dimensions: lesson planning, the execution of teaching activities, and the assessment of student achievement in accordance with assessment standards. The quantitative research drew upon data from 205 primary school teachers, which were analyzed using descriptive statistics, the Friedman test, Pearson correlation, the Kruskal–Wallis test, and multiple linear regression. Although the results from the Friedman test did not show statistically significant differences among the three dimensions examined ($p = 0.268$), the correlation analysis identified positive and statistically significant relationships between planning and implementation ($r = 0.530$; $p < 0.001$), as well as between implementation and evaluation ($r = 0.643$; $p < 0.001$). Data from the Kruskal–Wallis test revealed no statistically significant differences in the reported level of curriculum implementation among teachers with varying levels of professional experience ($\chi^2(3) = 4.246$; $p = 0.236$), while the regression model proved to be statistically significant, explaining 47.2% of the variance in the reported level of implementation of curricular requirements during instructional activities.
The results of this research highlight the interconnection between planning, implementation, and evaluation, suggesting that suggest the importance of coherence among these dimensions in fulfilling curricular requirements. From a pedagogical perspective, these findings of this research provide insights into the reported implementation of curricular requirements, based on teachers' self-reports. At the same time, they highlight the need to support teachers in lesson planning, instructional activities, and assessment practices.

Keywords: intended curriculum, instructional coherence, instructional planning, teaching practice, standards-based assessment.

Introduction

The curriculum serves as the foundational document upon which the organization of the entire educational process is based. In addition to the term "curriculum," educational documentation in the Republic of North Macedonia also employs the terms "curriculum plan" and "syllabus", concepts that carry distinct meanings and functions. The curriculum provides a comprehensive framework for the planning and organization of the educational process. This collection of activities and tasks defines learning objectives, educational content, teaching methods, assessment strategies, and the resources required to achieve the relevant objectives; simultaneously, it also outlines measures for the training of teachers and instructors (UNESCO, 2026).
The curriculum is based on national standards and learning outcomes, components that guide the determination of content and assessment standards. Implementing the curriculum involves selecting teaching methodologies, utilizing educational tools and technology, and organizing both curricular and extracurricular activities.
Beyond defining goals, content, and learning outcomes, the curriculum includes components that guide its application within educational practice. Fullan (2001) emphasizes that the implementation of curricular content is of fundamental importance for achieving the intended objectives.
The intended curriculum includes the official documents that define what students are expected to learn and how learning outcomes will be assessed (UNESCO-IBE, 2013).

According to the Concept for Primary Education (2021), upon which the organization of primary education in the Republic of North Macedonia is based, the development of competencies is grounded in national standards, which are operationalized within curricula through learning outcomes and assessment standards (Ministry of Education and Science, 2021).

When the intended curriculum is put into practice, we say that the curriculum has been implemented (UNESCO-IBE, 2013). The implementation of the intended curriculum encompasses all concrete teaching and learning activities—instructional tasks designed to align learning activities with the learning outcomes and assessment standards defined in the curricula.

Unlike the preceding forms, the attained curriculum represents the knowledge, understanding, skills, and attitudes that students actually acquire during the learning process (UNESCO-IBE, 2013). The extent to which learning outcomes are achieved is assessed in relation to the standards defined in the curricula.

Since the assessment standards defined in the curricula primarily relate to the use of higher-order cognitive processes and application skills, instruction should be designed with the aim of developing these skills. This establishes a link between what is planned and the assessment of student achievement in accordance with the assessment standards (Ministry of Education and Science, 2021).

According to the OECD (2026), a gap in curriculum implementation arises when curricular goals do not align with the reality in the classroom or with the actual learning outcomes achieved. This discrepancy may be attributed to factors such as a reliance on traditional practices, as well as insufficient preparation and a lack of professional development for teachers.

Challenges related to the implementation of the curriculum and the alignment of teaching practice with the assessment of student achievement were examined in an OECD report (2019) on the Republic of North Macedonia. Examining the conditions and challenges faced by the responsible institutions and the teachers, the Ombudsman (2022) addressed the issue of implementing the new concept for primary education in schools in the Republic of North Macedonia. At the same time, UNESCO-IIEP (2024) has examined the challenges facing the education system, including the conditions and resources necessary for the implementation of educational reforms.

The purpose of this study is to examine the reported level of compliance with curricular requirements across three dimensions: lesson planning, the execution of learning activities, and the assessment of student achievement.

Methodology

Research Design

Based on teachers' self-reports collected via questionnaires, this quantitative research aims to examine the implementation of curricular requirements in primary education in the Republic of North Macedonia. The study focuses on three dimensions: lesson planning, the execution of instructional activities, and the assessment of student achievement in accordance with curricular standards. To investigate differences between variables, the relationships among them, and variations in the implementation of curricular requirements based on teachers' professional experience, we have employed analyses using various statistical methods.

Research Sample

A total of 207 primary education teachers from the Republic of North Macedonia participated in the research on a voluntary basis. Out of the 207 questionnaires, two were excluded due to incomplete responses; therefore, the analysis of the results was based on data from 205 teachers. The sample for this study is a non-probability sample. Data collection was conducted via the Google Forms platform.

Research Instrument

Data collection was carried out using a self-report questionnaire. This instrument was designed to examine teachers' perceptions and assessments regarding the implementation of curricular requirements.
For the analysis of the research results, three dimensions of the questionnaire were included: planning (six questions), implementation of learning activities (six questions), and assessment (seven questions). Responses were measured using a five-point Likert scale, ranging from 1 to 5. The score for each dimension was calculated as the mean of the responses to the corresponding questions.
Internal consistency was evaluated using Cronbach's alpha coefficient, which yielded $\alpha = 0.817$ for planning, $\alpha = 0.881$ for implementation, and $\alpha = 0.877$ for assessment. These values indicate good internal consistency for each dimension.

Data Analysis

The analysis of data reported by teachers relies on descriptive and inferential statistical methods.
The Friedman test was used to examine differences among the reported levels of three dimensions of the implementation of curricular requirements. Pearson's correlation was applied to identify relationships between lesson planning and the execution of instructional activities, as well as between the execution of instructional activities and the assessment of student achievement against standards.
The Kruskal–Wallis test was used to examine differences in the reported level of implementation of curricular requirements based on the teachers' professional experience.
Additionally, multiple regression analysis was conducted. Through this statistical method, we were able to analyze the extent to which lesson planning and the assessment of student achievement against standards explain the variance in the reported level of implementation of curricular requirements during the execution of instructional activities.
Statistical analyses were performed using SPSS.

Research Questions

The research, which examines the relationship between the intended curriculum in primary education in North Macedonia and its implementation in teaching practice, based on teachers' accounts, is guided by one main research question and four specific research questions. The dimensions focused on in this study include: lesson planning, the execution of learning activities, and the assessment of student achievement against established standards. In addition to exploring the relationship between these dimensions, the study also analyzes potential differences in the implementation of curricular requirements based on the teachers' professional experience.

Main Research Question (MRQ):
What is the relationship between the alignment of lesson planning and the assessment of student achievement based on established standards and the extent to which curricular requirements are implemented in classroom practice, according to teachers' self-reports?

Specific research questions:
RQ1. Does the reported level of fulfillment of curricular requirements differ between lesson planning, the implementation of learning activities, and the assessment of student achievement?

RQ2. What is the relationship between the reported extent to which lesson planning aligns with learning outcomes and the reported extent to which curricular requirements are implemented in teaching practice?
RQ3. Based on teachers' reports, what is the relationship between the reported level of implementation of curricular requirements during instruction and the reported level of student assessment according to standards?

RQ4. Does the level of implementation of curricular requirements differ among teachers with varying levels of professional experience, based on their reports?

Results

Comparison of three dimensions of curriculum implementation

To compare three interrelated dimensions, assessed through the responses of 205 primary education teachers, the non-parametric Friedman test was conducted.

Table 1. *Mean rankings of curriculum implementation dimensions*

Ranks	
	Mean Rank
Lesson planning	2.09
Implementation of learning activities	1.94
Assessment of student achievement	1.97

Note. N = 205; $\chi^2(2) = 2{,}633$; p = 0,268.

The analysis results show that lesson planning has the highest mean rank (Mean Rank = 2.09), followed by the assessment of student achievement (Mean Rank = 1.97), while the implementation of learning activities, a dimension that presents the lowest mean rank (Mean Rank = 1.94), ranks last. The results of the Friedman test indicate that the differences between the three dimensions are not statistically significant, $\chi^2(2) = 2.633$; p = 0.268.

The relationship between lesson planning and the implementation of curricular requirements

Table 2. *Pearson Correlation Between Lesson Planning and the Implementation of Teaching*

Dimension	Statistic	Lesson Planning	Implementation of Teaching Activities
Lesson Planning	Pearson's r	1	0,530**
	p (two-tailed)	—	< 0,001
	N	205	205
Implementation of Teaching Activities	Pearson's r	0,530**	1
	p (two-tailed)	< 0,001	—
	N	205	205

**. Correlation is significant at the 0.01 level (2-tailed).

To examine the relationship between the reported level of lesson planning and the reported level of implementation of the intended curriculum requirements within instructional practice, a Pearson correlation analysis was used. The data presented in Table 2 indicate a positive, moderately strong, and statistically significant relationship between lesson planning and the implementation of instructional activities ($r = 0.530$; $p < 0.001$).

The relationship between the implementation of curricular requirements and assessment according to standards

Table 3. *The correlation between the implementation of curricular requirements and assessment according to standards*

Variable	r	p	N
Implementation of Curricular Requirements – Standards-Based Assessment	0,643	< 0,001	205

**. Correlation is significant at the 0.01 level (2-tailed).

The relationship between the reported level of implementation of curricular requirements during instruction and the level of student assessment according to standards was analyzed using the Pearson correlation. This analysis revealed a positive, relatively strong, and statistically significant association between the two dimensions ($r = 0.643$; $p < 0.001$; $N = 205$). The results suggest that teachers who report a higher level of implementation of curricular requirements also tend to report a higher level of conducting assessments in accordance with standards. However, the relationship between these two variables does not imply a direct influence of one dimension upon the other; rather, it indicates a positive correlation between them.

These data reflect the relationship between reported practices, results that do not constitute direct evidence of the quality of curriculum implementation in daily educational life or of the assessment process.

Differences in the implementation of curricular requirements based on professional experience

The non-parametric Kruskal–Wallis test was applied to examine differences in the level of implementation of curricular requirements among 205 teachers, divided into four groups based on their professional experience.

Table 4. *Differences in the implementation of curricular requirements based on professional experience*

Professional experience	N	Mean rank
Up to 5 years	46	116.30
6–10 years	39	90.53
11–20 years	83	103.22
21–30 years	37	99.11
Total	205	

Kruskal–Wallis test result: $\chi^2(3) = 4.246$; $p = 0.236$.

The results show the highest mean rank (116.30) among teachers with up to 5 years of professional experience, compared to those with 6–10 years of experience, who have the lowest mean rank (90.53). Meanwhile, teachers with 11–20 years and 21–30 years of experience show mean ranks of 103.22 and 99.11, respectively.
However, the results from the Kruskal–Wallis test indicate that the differences between the four groups are not statistically significant, $\chi^2(3) = 4.246$; $p = 0.236$.

Multiple linear regression analysis for the implementation of curricular requirements

Table 5. *Results of the multiple linear regression for the implementation of curricular requirements*

Predictor variables	**B**	**β**	**t**	**p**
Lesson planning	0,283	0,278	4,707	< 0,001
Standards-based assessment	0,571	0,504	8,544	< 0,001

Note: $R = 0,687$; $R^2 = 0,472$; R^2 Adjusted = 0,467; $F(2, 202) = 90,283$; $p < 0,001$; $N = 205$.

The findings indicate that the multiple linear regression model is statistically significant. When integrated into this framework, lesson planning and standards-based assessment account for 47.2% of the variance in the reported level of implementation of curricular requirements.
An analysis of the regression coefficients reveals a positive and statistically significant relationship between both dimensions and the implementation of the curriculum.
Lesson planning yields a standardized coefficient of $\beta = 0.278$ ($p < 0.001$), while standards-based assessment yields $\beta = 0.504$ ($p < 0.001$). These results highlight a positive relationship between lesson planning, standards-based assessment, and the implementation of curricular requirements.
The higher standardized coefficient for assessment indicates that, within the model examined, standards-based assessment has a stronger statistical association with curriculum implementation than lesson planning does.

Discussion

Based on the study's objective, teachers' statements were examined to analyze the relationships among, and compare the reported levels of, three dimensions of implementing curricular requirements in primary education in North Macedonia: lesson planning, the execution of learning activities, and the assessment of student achievement according to established standards.
The values derived from the Friedman test results provided no evidence of statistically significant differences regarding the reported level of fulfillment of curricular requirements across lesson planning, the implementation of instructional activities, and the assessment of student achievement in accordance with established standards.

From a pedagogical perspective, the differences among the three dimensions, which are not statistically significant, do not necessarily indicate alignment between the intended curriculum and its implementation in daily teaching practice. Given that these findings are based on teachers' self-reports rather than direct observation of the instructional process, it can be concluded that they reflect the situation as perceived and assessed by the teachers themselves regarding the fulfillment of curricular requirements.

A low level of alignment between curricular standards, content, and national examinations was also identified in the research by Atuhurra and Kaffenberger (2022). The findings of this study underscore the importance of examining the alignment between the intended curriculum and its practical implementation, although the study in question employs a different methodological approach.

Regarding the relationship between lesson planning and the implementation of curricular requirements, the results of the Pearson correlation analysis indicate a statistically significant, positive relationship of moderate strength, an outcome that is to be expected from a pedagogical perspective. Based on these findings, it is notable that teachers who reported a higher level of lesson planning, aligned with learning outcomes, also reported a higher level of implementation of curricular requirements during the execution of instructional activities.

From a pedagogical perspective, the importance of the connection between intended learning outcomes and the instructional activities carried out in the classroom is underscored. Lesson preparation directs the teaching process toward the fulfillment of targeted objectives; however, meeting curricular requirements also depends on how these outcomes are operationalized through learning activities. Therefore, the observed positive correlation does not necessarily imply that a higher level of planning guarantees a more successful implementation of the curriculum.

The significance of lesson planning in curriculum implementation is also highlighted in research by Mambwe and Mbewe (2024). The results of this study reveal a discrepancy between the content of lesson plans and how they are actually implemented in practice. These findings suggest that the creation of a lesson plan does not automatically guarantee that it will be put into effect during instructional activities.

The results of the Pearson correlation analysis revealed a relatively strong and statistically significant positive relationship between the implementation of curricular expectations during instructional activities and the assessment of student achievement according to standards. The study's findings highlight that teachers who reported a higher degree of implementation of curricular requirements during instruction also reported a higher level of student assessment in alignment with the standards defined in the curriculum.

This observed relationship between these two variables, when analyzed from a pedagogical perspective, highlights the importance of the interconnection between the implementation of learning activities and the assessment of student achievement, two dimensions that should be oriented toward intended learning outcomes. Furthermore, it is essential to emphasize the significance of the assessment dimension, aligned with curricular standards, as a pedagogical action that should be treated as an integrated process within teaching.

The results presented above are based on teachers' self-reports. Since this relationship has not been verified through direct observation of instructional practices or an analysis of assessment instruments, the data do not provide sufficient evidence to determine whether the learning activities and assessment practices are truly aligned with curricular requirements.

The research by Conde-Izquierdo et al. (2026), conducted with 500 primary education teachers in Spain, is comparable to our findings regarding the importance of the link between the implementation of learning activities and assessment practices. In this study, the authors highlight a positive relationship between teachers' perceptions of active methodologies and their assessment practices. However, according to Conde-Izquierdo et al. (2026), alignment

between teaching and assessment does not occur automatically; rather, it is linked to professional and institutional factors that can either support or hinder it.

The research findings from the Kruskal–Wallis test regarding differences in the reported level of implementation of curricular requirements based on teachers' professional experience did not reveal any statistically significant differences among the groups included in the study ($p = .236$). From a pedagogical perspective, the results within this sample indicate that years of experience, when considered as a sole indicator, are not always associated with varying levels of implementation of curricular requirements. However, this result does not imply that professional experience is unimportant for curriculum implementation. In this context, it is essential to understand that professional experience encompasses more than just the duration of one's teaching career; it also includes opportunities for professional development, reflection on pedagogical practices, and the ability to adapt to changes in the curriculum.

The findings from the study by Gore et al. (2024) , conducted with 512 primary school teachers in Australia, indicate that there are no statistically significant differences in the quality of pedagogical practices based on years of professional experience. The research data reinforce the argument that the length of professional experience is not necessarily an indicator of teaching quality, highlighting the continuous professional development of teachers as a significant factor.

The findings from the multiple regression analysis indicate that lesson planning and the assessment of student achievement against standards, taken together, explain 47.2% of the variance in the reported level of implementation of curricular expectations during instructional activities ($R^2 = .472$).

Assessing student achievement against standards ($\beta = .504$) shows a stronger association with the reported level of implementation of curricular requirements during instructional activities than does lesson planning ($\beta = .278$), when each variable is examined while statistically controlling for the other within the regression model. From a pedagogical perspective, this finding highlights the importance of assessment as an essential component of teaching and learning. Rather than being treated as a final judgment, assessment should be conceived as an ongoing process that guides classroom work toward intended learning outcomes.

A systematic review of 59 studies enabled Harris et al. (2022) to highlight that, when assessment is focused on learning progress, it can serve as a solid foundation for making pedagogical decisions and tailoring the instructional process to students' needs. The authors' findings provide theoretical and empirical support for treating assessment as an integral part of teaching.

Overall, the research results underscore the importance of interlinking the three dimensions examined. Although lesson planning, the implementation of learning activities, and the assessment of student achievement against standards represent distinct pedagogical processes, the connections between them suggest that the implementation of curricular requirements should be viewed as an integrated process.

Research limitations

The findings of this research are based on teachers' self-reports. For a more comprehensive examination of the implementation of curricular requirements, the study could be expanded to include classroom observations and an analysis of lesson plans and assessment instruments.

Conclusion

The findings of this research highlight the importance of the link between lesson planning, the implementation of instructional activities, and the assessment of student achievement in alignment with curricular standards. Although no statistically significant differences were observed between the reported levels of these dimensions, this does not necessarily confirm the alignment between the intended curriculum and its practical implementation.

The positive relationships identified, combined with the results of the multiple regression analysis, suggest that meeting curricular requirements should be viewed as an integrated process in which planning, implementation, and assessment are interconnected.

From a pedagogical perspective, these findings underscore the need to support teachers in harmonizing these processes; meanwhile, a more comprehensive evaluation of curriculum implementation would require research that incorporates direct observation of instructional practices and an analysis of pedagogical documentation.

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