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The Conception and Practice of Assessment from the Perspective of Primary Education Teachers in Croatia

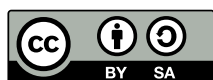
Abstract: This paper presents the results of a study aimed at examining Croatian primary education teachers' conceptions of assessment and the correlation between these conceptions and the implementation of assessment in their teaching practice. The analysis of teachers' conceptions includes considerations of the reliability and importance of assessment, its role in fostering students' development, the perception of assessment as a tool for ensuring the quality of school and teacher performance, and its role in preparing students for examinations. The study also examines teachers' assessment practices, analyzing whether they predominantly focus on formative assessment thus fostering student development, or on summative assessment by preparing students for test-related tasks. The research was conducted on a sample of 261 primary education teachers in Croatia. The findings reveal a statistically significant correlation between teachers' perceptions of assessment and its implementation in teaching. Teachers who perceive assessment as important for students' personal development are more likely to employ formative assessment in their teaching. Based on the results, the study discusses implications for practice and possibilities for improving the perception and implementation of assessment in primary education, emphasizing the potential of assessment to promote holistic student development.

Keywords: formative assessment; teachers' self-assessment; fostering student development; summative assessment; purpose of assessment

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Introduction

Assessment is an essential component of the educational process. At the same time, the teacher's role within this process is both responsible and demanding, particularly in how it relates to the implementation and interpretation of assessment. The way teachers perceive the nature and purpose of assessment can significantly influence students' understanding of it and their educational achievements (Brown 2008). Previous research has shown that teachers who view assessment as a means of supporting the learning process by providing constructive feedback and improving that process encourage students to adopt more effective learning strategies, increase their motivation to learn and enable them to achieve higher levels of educational outcomes (Berry 2008; Mekonnen and Melesse 2022; Toth and Csapo 2022). In contrast, approaches that reduce assessment solely to a summative evaluation of student achievements can foster anxiety among students and lead them towards superficial and reproductive learning aimed at meeting external criteria, without deeper understanding or the development of complex cognitive skills such as critical thinking and reasoning (Pekrun et al. 2017). Effective assessment should entail a balance between formative and summative approaches, ensure fairness and transparency, and promote the development of students' metacognitive skills (Kožuš 2019; Stobart 2008).

In the context of this study, the term *conception* refers to the general, implicit knowledge that an individual possesses about the nature of a particular phenomenon (Brown 2008), including its key characteristics, structure and purpose (Ajzen 2005; Fives and Buehl 2012). Accordingly, a conception of assessment pertains to the understanding of the nature and purpose of methods used to monitor student progress, evaluate learning outcomes and assess student achievements.

Previous research indicates that teachers' conception, beliefs and attitudes can significantly influence the quality of the educational process, the achievement of learning outcomes, teaching methods and assessment strategies (Fives and Buehl 2012; Torrance and Pryor 2021). Teachers with a higher level of assessment literacy tend to have a clearer understanding of the purpose of assessment (Looney et al. 2017; Xu and Brown 2016). Perceiving assessment as a tool for improving

learning correlates with teachers' focus on fostering deeper understanding of instructional content during the learning process (Christoforidou et al. 2014; Lin et al. 2014). Meanwhile, factors such as national assessment programs often create a sense of pressure, which can limit the use of formative and diagnostic approaches to assessment (Asamoah et al. 2024; Toth and Csapo 2022). A study conducted by Chen and Brown (2013) among prospective teachers in China revealed that viewing assessment primarily as an instrument for exam success correlates with their negative attitudes towards assessment. Teachers with such perceptions are more likely to regard assessment as non-diagnostic, non-formative, irrelevant to the development of life skills and generally unimportant. Furthermore, Brown and Gao (2019) emphasize that while teachers' perceptions of assessment often align with universal goals, such as supporting learning and ensuring educational quality, they also reflect local cultural and educational specificities.

In 2008, Brown developed a model that categorizes the purposes of assessment into three main purposes and one counter-purpose. The first perspective considers assessment as a tool for improving teaching and learning, emphasizing its formative role in identifying students' needs and adapting instruction accordingly. The second perspective highlights assessment as a means of accountability for schools and teachers, defining it as a tool for measuring the effectiveness of the educational system and teachers' performance. The third perspective views assessment as a tool for fostering student accountability, emphasizing its role in motivating students and encouraging them to take responsibility for their own learning. The fourth counter-perspective regards assessment as an irrelevant aspect of the educational process with no meaningful impact. By combining school and student accountability in particular, two main purposes emerge: accountability and improvement (Brown 2008). In the context of assessment as accountability, the primary goal is the evaluation and judgment of the quality of achievements. Conversely, assessment focused on improvement aims to identify areas for growth and to encourage change.

In recent decades, most educational policies worldwide have emphasized the creation of learning environments and practices that promote learning improvement, specifically through formative assessment (Black and Wiliam 1998; Brown and Hattie 2012). In this context, assessment moves away from making value judgments about students, schools or teachers, focusing instead on reflecting on the quality of teaching and learning processes.

Assessment occupies a central role in educational practice, but its inherent duality in understanding and application creates a complex dynamic. It guides teachers and students towards a shared goal: identifying and overcoming learning difficulties. Additionally, assessment assumes a role of accountability. Assessment results are often used to evaluate the performance of teachers and schools, which in practice can create tensions and counterproductive effects. While assessment aimed at improvement encourages openness to recognizing and addressing weaknesses, the evaluative aspect, particularly when tied to negative consequences, can discourage this process. In environments where accountability is heavily emphasized, there is a risk that teachers, driven by the need to maximize perfor-

mance and meet the expectations of their superiors, may avoid openly confronting challenges associated with formative assessment. Given the ongoing tension between the functions of improvement and accountability, teachers' perceptions and practices of assessment are likely to reflect the dominant approach present within a particular educational system, as well as the emphasis that the system places on each of these functions (Brown and Gao 2019).

The Croatian education system, though rooted in a strong didactic tradition, has increasingly incorporated Anglo-Saxon terminology and concepts, particularly following its 2017–2019 curricular reform. Terms such as *assessment for learning*, *assessment as learning* and *formative assessment* have been embedded in official documents, aligning national discourse with global trends. *The National Curriculum for Primary Education* (MSE 2017) and the *Guidelines for the Evaluation of Processes and the Achievement of Educational Outcomes* (MSE 2019a), both published by the Ministry of Science and Education of the Republic of Croatia (MSE), highlight the formative and developmental role of assessment, emphasizing feedback, student reflection and learning support. Foundational pedagogical principles reinforce a shift towards learner-centred, process-oriented instruction (Cindrić et al. 2010; Matijević and Radovanović 2011; Rajić 2017). The legal framework regulating student assessment in Croatian primary and secondary schools, defined by the *Ordinance on the Methods, Procedures and Elements of Student Assessment in Primary and Secondary Schools* (MSE 2019b), distinguishes between assessment for, as and of learning, and promotes continuous progress monitoring with an increasing focus on formative strategies. However, no systematic research has yet explored how Croatian teachers conceptualize and apply assessment.

Methods

Aim and research questions

The aim of the study is to examine Croatian primary education teachers' conceptions of the nature and purpose of assessment and to determine the extent to which these conceptions are reflected in their assessment practices.

Based on this aim, the study addresses the following research questions:

- What is the dominant conception of the nature and purpose of assessment among primary education teachers in Croatia?
- To what extent are teachers' assessment practices, according to their self-evaluation, oriented towards formative or summative assessment?
- To what extent do teachers' conceptions of assessment predict their self-evaluated assessment practices?
- Is there a statistically significant correlation between teachers' conceptions of assessment and their self-evaluation of their assessment practices?
- Are there statistically significant differences in teachers' conceptions of assessment and their self-evaluated assessment practices based on their educational qualifications, years of teaching experience and professional titles?

Study sample

This research was conducted in April and May 2024 with a sample of 261 primary education teachers (from 1st to 4th grade) in Croatia. Table 1 presents the distribution of the sample's demographic and professional variables. The analysed variables include gender, education level, professional advancement, years of teaching experience and the type of environment in which the respondents work.

Variable	Level	N	%	Variable	Level	N	%
Gender	Male	10	3.8	Years of experience	0–5 years	35	13.4
	Female	251	96.2		6–10 years	21	8.0
Education	Bachelor’s degree	75	28.7		11–15 years	30	11.5
	Master’s degree	151	57.9		16–20 years	31	11.9
	Master’s in profession	30	11.5		More than 20 years	144	55.2
	Master’s in science	4	1.5	School area	Urban	173	66.3
	PhD	1	0.4		Suburban	31	11.9
Professional advancement	Teacher	187	71.6		Rural	57	21.8
	Teacher mentor	42					
	Teacher advisor	24					
	Outstanding teacher advisor	8					

Table 1. Sample of primary education teachers in Croatia

Procedure and research instruments

The data for this study were collected using an online survey questionnaire. Respondents were invited via official emails sent to primary schools across Croatia, which encouraged teachers to participate in this study. To be included in the study, participants had to be currently employed as primary school teachers. Participation was voluntary and anonymous, and respondents were informed about the research objectives. The study received ethical approval from the Ethics Committee of the Faculty of Humanities and Social Sciences at the University of Split. Participants were also allowed to withdraw from the study at any point, ensuring adherence to ethical research standards, including free consent and privacy protection. The questionnaire consisted of two sections: The first section examined conceptions of assessment, and the second addressed self-assessment of teaching practices. Respondent demographic information was collected in the introductory part of the questionnaire.

To examine conceptions of assessment, the Teachers' Conceptions and Practices of Assessment in Chinese Contexts questionnaire (Brown et al. 2011) was used, partially adapted to the Croatian educational system. The instrument was chosen for its empirical validation and alignment with established assessment literacy frameworks. The questionnaire consisted of 48 statements to which respondents rated their agreement on a five-point Likert scale (ranging from 1 = *strongly disagree* to 5 = *strongly agree*). The statements were divided into four subscales:

- Reliability and Importance of Assessment (RI) explored teachers' attitudes towards the objectivity, reliability and importance of assessment. It included statements related to the accuracy and fairness of the assessment process.
- Fostering Student Development (FSD) addressed teachers' attitudes towards the importance of assessment in the learning process, focusing on fostering student progress, development and holistic growth. In this context, assessment is viewed as a means to enhance students' competencies.
- Ensuring Quality of School and Teacher Performance (EQ) examined teachers' attitudes towards assessment as a tool for monitoring and improving the quality of school and teacher performance, emphasizing institutional accountability for maintaining high educational standards.
- Exam-Oriented Focus (E) evaluated teachers' views on assessment's role in exam preparation and success.

The teachers' self-evaluation of teaching practices related to assessment was examined using the Practices of Assessment Inventory (Brown et al. 2009), which was adapted to this study. The instrument offers a validated framework for analysing teachers' assessment practices in line with international research. The questionnaire consisted of 34 statements that fell into four subscales:

- Assessment for Learning (AfL) examined the frequency of using assessment methods that support the learning process and provide feedback to students to improve the learning process.
- Assessment as Learning (AaL) explored the frequency of applying assessment strategies that encourage students to engage in self-assessment and reflection on their own learning.
- Assessment of Learning (AoL) examined the use of assessment to evaluate outcomes and performance.
- Preparation for Exam Tasks (PET) examined the frequency of using strategies aimed at preparing students for standardized exams.

Teachers self-assessed the frequency of employing these assessment methods on a five-point scale, rating how often they used each strategy (1 = *very rarely*, 5 = *very often*).

Data analysis methods

The normality of distribution for all variables was tested using the Kolmogorov-Smirnov test. Parametric statistical procedures were applied for further data analysis. Descriptive statistics were used to determine teachers' conceptions of the nature and purpose of assessment, as well as the extent to which their teaching practices were oriented towards formative or summative assessment. The Pearson correlation coefficient was calculated to examine the relationship between teachers' conceptions of assessment and their assessment practices, specifically by analysing the responses across individual scales. Regression analysis was conducted to explore the predictive relationship between teachers' perceptions of assessment and their practices. One-way analysis of variance (ANOVA) was employed to identify differences in responses based on participants' demographic characteristics. Additionally, the reliability of all scales used in the questionnaire was assessed by calculating the Cronbach's alpha reliability coefficient. Paired t-tests compared teachers' ratings across subscales and assessment types.

Results

The descriptive statistical analysis presented in Table 2 indicates a statistically significant deviation from normality in the distributions of all variables. However, the observed deviations in skewness and kurtosis measures are minor, and the distributions are relatively symmetrical, exhibiting slight positive or negative skewness. Based on these data characteristics, parametric procedures were used in subsequent analyses. The results of the Cronbach's alpha reliability coefficient suggest acceptable reliability for the AoL scale, very good reliability for the Preparation for Exam Tasks scale (PET) and Summative Assessment (SUM) scale, and excellent reliability for all other scales (Table 2).

	M	C	D	SD	Skew	Kurt	Min	Max	KS	α
RI total	45.8	47.0	49.0	9.06	-0.26	-0.01	22	67	0.07**	.88
FSD total	52.6	53.0	52.0	11.19	-0.58	0.65	15	75	0.09**	.95
EQ total	30.1	30.0	29.0	7.35	-0.14	0.05	10	50	0.08**	.87
E total	17.5	18.0	20.0	3.83	-0.70	0.97	5	25	0.10**	.83
AfL total	45.0	45.0	48.0	6.85	-0.36	0.31	23	60	0.07**	.81
AaL total	23.1	24.0	24.0	4.25	-0.64	0.30	10	30	0.11**	.83
PET total	32.1	33.0	35.0	4.90	-0.88	0.64	16	40	0.12**	.77
AoL total	28.9	29.0	29.0	4.57	0.08	-0.17	16	40	0.06**	.67
FOR total	68.1	68.0	66.0	10.42	-0.42	0.23	33	90	0.06*	.89
SUM total	61.1	61.0	61.0	7.90	-0.47	0.61	32	80	0.07**	.78
RI mean	3.1	3.1	3.3	0.60	-0.26	-0.01	1	4	0.07**	.88
FSD mean	3.5	3.5	3.45	0.75	-0.58	0.65	1	5	0.09**	.95
EQ mean	3.0	3.0	2.9	0.74	-0.14	0.05	1	5	0.08**	.87
E mean	3.5	3.6	4.0	0.77	-0.70	0.97	1	5	0.10**	.83
AfL mean	3.7	3.8	4.0	0.57	-0.36	0.31	2	5	0.07**	.81
AaL mean	3.9	4.0	4.0	0.71	-0.64	0.30	2	5	0.11**	.83
AoL mean	3.6	3.6	3.6	0.57	0.08	-0.17	2	5	0.06**	.77
PET mean	4.0	4.1	4.4	0.61	-0.88	0.64	2	5	0.12**	.67
FOR mean	3.8	3.8	3.7	0.58	-0.42	0.23	2	5	0.06*	.89
SUM mean	3.8	3.8	3.8	0.49	-0.47	0.61	2	5	0.07**	.78

*Legend: RI - Reliability and Importance of Assessment, FSD - Fostering Student Development, EQ - Ensuring the Quality of Schools and Teachers, E - Exam-Oriented Focus, AfL - Assessment for Learning, AaL - Assessment as Learning, PET - Preparation for Exam Tasks, AoL - Assessment of Learning, FOR - Formative Assessment, SUM - Summative Assessment, M - Mean, C - Median, D - Mode, SD - Standard Deviation, Skew - Skewness, Kurt - Kurtosis, Min - Minimum, Max - Maximum, KS - Kolmogorov-Smirnov test for normality, α - Cronbach's alpha reliability coefficient, * $p < 0.05$, ** $p < 0.01$.*

Table 2. Descriptive statistics of the assessed subscales and variables

Teachers' conceptions of the nature and purpose of assessment and self-assessment in assessment practices

To address the first and second research questions, a descriptive statistical analysis was conducted. Arithmetic means (M) and standard deviations (SD) were calculated for respondents' answers to the Conceptions of Assessment and Assessment Practices scales. The results are presented in Table 2. The findings indicate a neutral attitude towards the reliability and importance of assessment in the educational process ($M = 3.1$, $SD = 0.60$) and its role in improving the quality of schools and teachers ($M = 3.0$, $SD = 0.74$). The teachers expressed support for the conception of emphasizing the importance of assessment to foster

learning and student development ($M = 3.5$, $SD = 0.75$). However, the results also suggest the presence of a summative perception of assessment as a means of achieving external goals and measurable outcomes. A slightly positive attitude was observed towards assessment for exam preparation and success ($M = 3.5$, $SD = 0.77$). Based on these results, the answer to the first research question is that primary education teachers predominantly perceive assessment as a tool for fostering student development, while also preparing students for standardized exams. The teachers' self-assessment of their teaching practice confirms this dissonance. While teachers frequently employ formative assessment strategies ($M = 3.8$, $SD = 0.58$), such as providing feedback and monitoring student progress, exam preparation strategies remain more prevalent ($M = 4.0$, $SD = 0.61$). This finding suggests that, despite the teachers' recognition of the importance of formative assessment, preparing students for exams, especially to measure outcomes at the end of instruction, continues to play a dominant role in the participants' teaching practices. Although teachers recognize the importance of fostering students' self-regulation and reflection on their learning, as evidenced by frequent use of assessment strategies to promote self- and peer-assessment ($M = 3.9$, $SD = 0.71$), as well as assessment for learning strategies ($M = 3.7$, $SD = 0.57$), the results emphasize the need to further encourage teachers to prioritize formative assessment over summative approaches.

A repeated measures ANOVA examining differences in the Conceptions of Assessment scale revealed a statistically significant difference among the average scores across the scale's four subscales ($F(3, 260) = 204.01$, $p < .01$; Table 3).

	M	RI mean	FSD mean	EQ mean	E mean
RI mean	3.1	–	MD = $-.45$, $p < .01$	MD = $-.05$, $p > .05$	MD = $-.45$, $p < .01$
FSD mean	3.5	–	–	MD = $.49$, $p < .01$	MD = $.00$, $p > .01$
EQ mean	3.0	–	–	–	MD = $-.49$, $p < .01$
E mean	3.5	–	–	–	–

Table 3. Results of pairwise differences among all four subscales on the Conceptions of Assessment scale using the Bonferroni test after repeated measures ANOVA

The respondents scored equally high ($M = 3.5$) on the FSD and E subscales ($MD = .00$, $p > .01$). Statistically significant differences were observed between these two subscales and the RI subscale ($MD = .45$, $p < .01$), as well as the EQ subscale ($MD = .49$, $p < .01$), with mean scores for the FSD and E subscales significantly higher. The difference in mean scores between the RI and EQ subscales was not statistically significant ($MD = -.05$, $p > .05$).

A repeated measures analysis of variance conducted for the Assessment Practices scale revealed statistically significant differences among the mean scores across all four subscales ($F(3, 260) = 40.29$, $p < .01$; Table 4).

	M	AfL mean	AaL mean	AoL mean	PfT mean
AfL mean	3.7	–	MD = -.10, $p < .01$	MD = -.13, $p < .01$	MD = -.27, $p < .01$
AaL mean	3.9	–	–	MD = .24, $p < .01$	MD = -.17, $p < .01$
AoL mean	3.6	–	–	–	MD = -.40, $p < .01$
PET mean	4.0	–	–	–	–

Table 4. Results of pairwise differences among all subscales on the assessment practices scale using the Bonferroni test after repeated measures ANOVA

In this analysis, all pairwise differences were statistically significant. The teachers achieved the highest mean score ($M = 4.0$) on the PET subscale, which was significantly higher compared to the subscales AoL ($MD = -0.40, p < .01$), AfL ($MD = -0.27, p < .01$) and AaL ($MD = -0.17, p < .01$). Within formative assessment, the mean score on the AaL subscale ($M = 3.9$) was statistically significantly higher than the mean score on the AfL subscale ($M = 3.7$). Within summative assessment, the PET subscale ($M = 4.0$) had a statistically significantly higher mean score compared to the AoL subscale ($M = 3.6$).

Although differences were observed within formative and summative assessment, the overall mean scores for these two categories were comparable. Paired samples t-test results ($t = 0.97, p = .33$) indicate that there is no statistically significant difference between these two variables. This suggests that teachers perceive themselves as applying both forms of assessment with similar frequency, thereby providing the answer to the second research question.

Predictive value of individual conceptions of assessment on specific assessment practices

To examine the predictive value of individual conceptions of assessment (RI, FSD, EQ, E) on specific assessment practices (AaL, AfL, AoL, PET), four regression analyses were conducted. Conceptions of assessment were used as predictors, while assessment practices were used as criteria. Additionally, two regression analyses were conducted with summative (SUM) and formative (FOR) assessment as the criteria. Before performing the regression analyses, the necessary assumptions for regression analysis were tested. This included analysing correlations among variables, residual autocorrelation, multicollinearity and the presence of outliers. Table 5 presents the correlations among the predictors and between predictors and criteria.

		RI	FSD	EQ	E	AfL	AaL	PET	AoL	FOR	SUM
	RI total	1	.88**	.80**	.80**	.38**	.34**	.10	.23**	.39**	.20**
	FSD total		1	.80**	.89**	.38**	.38**	.14*	.22**	.41**	.22**
	EQ total			1	.77**	.36**	.32**	.15*	.32**	.37**	.27**
	E total				1	.35**	.34**	.16*	.24**	.37**	.24**
FOR	AfL total					1	.75**	.42**	.59**		.60**
	AaL total						1	.45**	.48**		.56**
SUM	PET total							1	.39**	.46**	
	AoL total								1	.58**	
	FOR total									1	.62**
	SUM total										1

Table 5. Intercorrelations among conceptions of assessment (predictors) and assessment practices (criteria)

From Table 5, it can be observed that all predictors show small to moderate correlations with the criteria ($r = 0.14\text{--}0.41$), except for RI and PET ($r = 0.10$, $p > .05$). Despite this lack of correlation, RI was included in the regression analysis as a predictor of PET, as prior research suggests its potential relevance for this aspect of assessment practice.

The predictors are also intercorrelated, but these correlations do not exceed 0.90. The fact that correlations among predictors are not excessively high indicates no significant multicollinearity. This implies that each conception of assessment provides sufficiently unique information, justifying their inclusion as separate predictors in the regression analysis. Additionally, the intercorrelations between the overall results of formative and summative assessment with the variables from which they are derived were excluded from Table 5, as these represent inherent relationships that do not provide new insights into the relationships among variables.

Residual autocorrelations and multicollinearity are presented in Table 6.

	Durbin-Watson statistic	Tolerance	Variance inflation factor (VIF)
RI total	1.936 - 2.200	.20	5.029
FSD total		.13	7.765
EQ total		.30	3.286
E total		.20	4.922

Table 6. Measures of residual autocorrelation (Durbin-Watson statistic) and multicollinearity (Variance inflation factor and tolerance) for regression models predicting conceptions of assessment

The range of Durbin-Watson values in Table 6 refers to the six separate regression models with different criterion variables. The values range from 1.936 to 2.200 (AfL = 1.936, AaL = 2.174, AoL = 2.191, PET = 2.200, FOR = 2.022 and

SUM = 2.189), indicating no substantial autocorrelation of residuals. Tolerance and variance inflation factor (VIF) values, also shown in Table 6 and referring to the predictor variables (RI, FSD, EQ and E), were used to assess multicollinearity. Multicollinearity was acceptable in terms of tolerance measure, as the values are greater than 0.1, but weaker regarding the variance inflation factor (VIF), with some factors exceeding the threshold of 4. This is attributed to high correlations among predictors. As for outliers, they were removed prior to all analyses, ensuring no influence on the results.

The regression analysis revealed that all regression coefficients were statistically significant except for the prediction of PET. While the regression coefficients for most criterion variables were statistically significant, the percentage of explained variance was relatively low. The highest explained variance was observed for AfL (16%) and AaL (15%) among individual variables. Formative assessment (17%) demonstrated greater predictive power compared to summative assessment (8%).

Beta weights analysis indicated that only two conceptions of assessment had a significant predictive contribution. The conception of assessment as a tool for FSD was a significantly positive predictor of AaL ($\beta = .33$, $t = 2.07$, $p < .05$). These findings suggest that teachers who perceive assessment as a means of fostering student development are more likely to implement assessment as learning.

Furthermore, the conception of assessment as an EQ tool was a significant positive predictor of AoL ($\beta = .37$, $t = 3.43$, $p < .01$) and SUM ($\beta = .29$, $t = 2.64$, $p < .01$). The positive beta coefficients indicate that teachers who view assessment as a mechanism for improving the quality of school and teacher performance more frequently use strategies aimed at objectively determining student achievement, specifically strategies associated with assessment of learning and summative assessment.

Differences in assessment perception and self-assessment of assessment practices based on respondents' demographic characteristics

To examine differences in assessment perceptions and practices based on demographics (educational qualifications, years of experience and professional rank), ANOVA were conducted. To ensure an adequate sample size for ANOVA, 5 respondents with doctoral and master's degrees in science were excluded from the analysis. The final sample (256 respondents) included 29% of teachers with bachelor's degrees, 59% with a master's degree and 12% with a professional master's degree. Before conducting the ANOVA, Levene's test for homogeneity of variances was applied to assess the assumption of equal variances between these three groups for each variable related to conceptions and practices of assessment. The resulting Levene's statistic indicated no statistically significant differences in variances among the three groups for any variable.

The results of the one-way ANOVA revealed a statistically significant difference in the self-assessed frequency of applying assessment of learning based

on the respondents' educational qualifications ($F = 3.69, p < .05$). To determine which groups differed significantly, Scheffe's post-hoc tests were conducted. The results showed that respondents with a professional master's degree in their field scored significantly higher on the AoL scale ($M = 3.9, SD = 0.54$) compared to those with a bachelor's ($M = 3.6, SD = 0.51$) or master's degree ($M = 3.6, SD = 0.60$). No statistically significant difference was observed between respondents with a master's or bachelor's degree.

A one-way ANOVA was also conducted to examine differences in the perception of assessment and self-assessment of assessment practices based on years of teaching experience. Levene's test showed no significant variance differences, confirming ANOVA assumptions. The results did not indicate a statistically significant influence of years of experience on any of the measured variables.

To analyse differences in assessment perception and practice based on professional rank, outstanding teacher advisors ($n = 8$) were excluded from the sample due to insufficient representation in this category. The analysis was continued with the remaining sample of 253 respondents. Again, Levene's test did not reveal significant results, justifying the application of a one-way ANOVA.

The results in Table 7 indicate a statistically significant difference in scores on the variables AfL ($F(2, 255) = 5.60, p < .01$), AaL ($F(2, 255) = 4.16, p < .05$) and FOR ($F(2, 255) = 5.72, p < .01$) based on the professional rank of primary education teachers.

	F	p
RI mean	3.02	> .05
FSD mean	2.48	> .05
EQ mean	1.19	> .05
E mean	1.21	> .05
AfL mean	5.60	< .01
AaL mean	4.16	< .05
AoL mean	0.12	> .05
PET p mean	0.71	> .05
FOR mean	5.72	< .01
SUM mean	0.52	> .05

Table 7. Results of one-way ANOVA testing based on respondents' professional rank

In all three cases, differences were observed only between mentor teachers and teachers without a professional rank. Teachers without a professional rank scored lower on the AfL ($M = 3.7, SD = 0.55$), AaL ($M = 3.8, SD = 0.70$) and FOR ($M = 4.2, SD = 0.63$) subscales compared to teacher mentors ($M = 4.0, SD = 0.53$; $M = 4.1, SD = 0.58$; and $M = 4.5, SD = 0.58$). These findings suggest that teacher mentors demonstrate a higher level of engagement in implementing formative assessment strategies compared to teachers who have not advanced in rank.

Discussion

This study examined Croatian primary school teachers' perceptions and use of assessment methods, focusing on the relationship between their perceptions of assessment and their actual application of various assessment methods in practice. The findings reveal a low to moderate correlation between conceptions of assessment and formative/summative practices. This suggests that the overall perception of the nature and purpose of assessment is significantly associated with the active implementation of diverse forms of assessment in practice, which is consistent with Brown and Harris (2009).

The results also revealed no statistically significant differences in the frequency of applying formative and summative assessment among primary school teachers. This can be interpreted in several ways. On the one hand, it may indicate that primary school teachers are equally aware of the importance of both approaches to assessment. On the other hand, this finding may suggest that formative assessment methods, which should ideally be implemented daily (Heitink et al. 2016), are not yet predominant in teaching practices compared to summative assessment, which is intended for occasional use. Additionally, it is possible that the instruments or methods used in this study were not sensitive enough to detect existing differences in the frequency of formative and summative assessment application. Further research is needed to more precisely determine the balance between these two approaches in practice.

The regression analysis showed that teachers' conceptions of assessment can predict their assessment practices, though this influence is limited and complex. Although statistically significant, the relationship between conceptions and self-assessed practices is weak. This suggests that other factors may also influence assessment practices. Only the dimension of assessment as fostering student development demonstrated a consistent and statistically significant positive impact on the application of formative assessment strategies. Furthermore, the study revealed that the frequency of applying assessment of learning and summative assessment is significantly associated with the perception of assessment as a tool for ensuring the quality of school and teacher performance. This indicates that teachers who view assessment in this function more frequently use strategies focused on objectively determining students' achievements, which is consistent with previous findings (Brown 2008; Chen and Brown 2013). Other dimensions showed no consistent impact, suggesting the need to explore additional factors. Despite the significance of the overall model, none of the dimensions of the assessment conception significantly contributed to explaining the variance in the frequency of using AfL and PET strategies. This unexpected result suggests that the application of these strategies is influenced by factors not addressed in this study. Possible factors include external pressures such as curricular demands, a lack of time for implementing AfL strategies or insufficient experience with their practical application. This finding in turn implies that, while conceptual understanding of assessment plays a role in shaping teachers' assessment practices, other factors

influence the selection and application of assessment strategies in the classroom. The low explained variance may be attributed to contextual factors such as school policies, curricular frameworks, pressures of standardized testing and time constraints for implementing formative assessment, which often requires more time and resources compared to traditional assessment methods.

Future research should focus on identifying and analysing these factors to ensure alignment between theoretical conceptions of assessment and actual assessment practices in education. This would support the development of strategies that address external and contextual influences on assessment practices, thereby enhancing their effectiveness and integration into teaching.

The findings also suggest that professional advancement influences conceptions of assessment and formative assessment use more strongly than teaching qualifications or experience. Teacher mentors, who are at a higher level of professional development, likely have stronger pedagogical and methodological competencies. This is reflected in their approach to assessment and the improvement of educational processes, especially in their frequent use of formative assessment. This may result from attending a greater number of professional development programs, mentoring and assessment experience. These results highlight the importance of ongoing teacher professional development.

Finally, the findings of this study can serve as a guideline for future educational policies by emphasizing the need to enhance mentoring systems and professional development for teachers. Additionally, they highlight the importance of encouraging all teachers to adopt a more active use of formative assessment and to focus on assessment strategies aimed at improving the learning process.

Conclusion

Since the implementation of the curricular reform and the adoption of new subject curricula in the Croatian education system, no significant research on assessment in this context has been conducted, despite reform recommendations to adopt new approaches and assessment guidelines (MSE 2019a). This study offers preliminary findings on assessment concepts and practices among Croatian primary teachers, showing a link between assessment purpose and its teaching application. Teachers who perceive assessment as a tool to improve learning and foster student development are more inclined to use formative assessment methods. The study also highlights that teacher advancement to higher professional ranks is a significant variable that influences their approach to assessment. This finding opens avenues for future research focused on a deeper analysis of how professional advancement impacts teachers' assessment concepts and practices.

Assessment should be viewed as a complex and multidimensional process. Given that assessment is an essential component of the curricular cycle, it is necessary to continuously review and research it to achieve the optimal implementation of its key aspects – formative and summative assessment – in teaching practice. Developing a culture of assessment ensures quality education and holistic student

development. This process entails a transformation of the traditional paradigm, which perceives assessment solely as a tool for evaluating student achievement, towards a paradigm that recognizes assessment as a process to provide feedback to all stakeholders in education. Furthermore, it serves as a foundation for informed decision-making aimed at improving teaching practices and the overall educational system. This also involves continuous professional development for teachers, as well as collaborative communication among all stakeholders in the educational system, including school principals, teachers, students and parents. Only through such an approach can assessment primarily serve as a factor that supports learning and the holistic development of every student, thereby fulfilling its most important purpose in the education system. To further advance the implementation of these principles and support the transformation of assessment practices, future research can determine the long-term effects of formative assessment, students' and parents' conceptions of assessment, as well as qualitative analyses of the challenges that teachers face during its implementation.

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ZASNOVA IN PRAKTIČNO IZVAJANJE PREVERJANJA IN OCENJEVANJA ZNANJA Z VIDIKA OSNOVNOŠOLSKIH UČITELJEV NA HRVAŠKEM

Povzetek: V članku predstavljamo rezultate raziskave, katere namen je bil proučiti, kako osnovnošolski učitelji na Hrvaškem pojmujejo preverjanje in ocenjevanje znanja in kakšna je korelacija med njihovimi pojmovanji ter praktičnim izvajanjem preverjanja in ocenjevanja znanja v pedagoški praksi. Analiza pojmovanj učiteljev vključuje tudi njihova stališča o zanesljivosti in pomembnosti preverjanja in ocenjevanja znanja, o vlogi le-tega pri spodbujanju razvoja učencev, dojemanju preverjanja in ocenjevanja znanja kot orodja za zagotavljanje kakovosti šole in uspešnosti učiteljev ter vlogi, ki jo imajo ti procesi pri pripravi učencev na izpite. Raziskava ugotavlja tudi, kakšne so prakse preverjanja in ocenjevanja znanja učiteljev, pri čemer analizira, ali se učitelji osredotočajo predvsem na formativno spremljanje, ki je namenjeno spodbujanju razvoja oz. napredka učencev, ali na sumativno ocenjevanje znanja, ki je namenjeno zlasti pripravi učencev na uspešno reševanje testnih nalog. Raziskava je bila izvedena na vzorcu 261 učiteljev v hrvaških osnovnih šolah. Ugotovitve kažejo statistično pomembno korelacijo med pojmovanji učiteljev o preverjanju in ocenjevanju znanja ter izvajanjem procesov preverjanja in ocenjevanja znanja v njihovi neposredni praksi. Učitelji, ki preverjanje in ocenjevanje znanja razumejo kot pomembno za osebni razvoj učencev, so tudi bolj naklonjeni uporabi formativnega spremljanja v svojem poučevanju. V članku na podlagi rezultatov raziskave opravimo tudi razmislek o tem, kakšne so njihove implikacije za prakso in možnosti za izboljšanje percepcije in izvajanja preverjanja in ocenjevanja znanja v osnovnošolskem izobraževanju, pri čemer poudarimo zlasti potencial preverjanja in ocenjevanja znanja za spodbujanje celostnega razvoja učencev.

Ključne besede: formativno spremljanje, samoocenjevanje učiteljev, spodbujanje razvoja učencev, sumativno ocenjevanje znanja, cilji ocenjevanja znanja

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