

Teacher and Formative Assessment in Primary Education

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Abstract The requirements of present-day international educational policy call for the use of effective assessment, the aim of which is to support the development of every learner and improve their learning process. In the educational process of primary education, one of the options for meeting these goals is formative assessment, which is considered an assessment for learning and not an assessment of learning. The presented paper deals with formative assessment at the primary level of education and its aim is to present the results of research dealing with the awareness of primary education teachers about formative assessment and its application in the educational process.

Keywords Formative assessment, primary education, teacher

INTRODUCTION

Assessment is a key tool that teachers can use to influence the development of learners' personalities, their motivation and their ability for lifelong learning. It is an essential part of the educational process and has a motivational, informative, comparative, and corrective function, while it should also positively support learners' healthy self-confidence. In this context, it is therefore important that assessment is not limited to checking the results achieved, but that it becomes primarily a way to support and discover the potential of students. Traditional approaches to school assessment, which have dominated in Slovakia, emphasise summative assessment of the results of the students' learning process in the majority of cases. This focus restricts the understanding of a learner's current developmental stage and the identification of particular areas needing improvement, thus resulting in a lack of clarity for both the student and their legal representatives regarding potential areas for improvement.

In the rapidly changing cultural and social conditions, it is essential that our education system brings about changes that will significantly affect assessment in accordance with current global trends in the assessment of the results of the teaching process, focusing on comprehensive assessment of the student, on the involvement of the student in the assessment process, and the

equalization of classification and verbal assessment (Hipkins, Cameron, 2018). Thus, the notion of formative assessment has risen in importance over the past few years, deserving a vital position in primary education.

1. FORMATIVE ASSESSMENT

The concept of formative assessment itself remains somewhat ambiguous even nowadays, despite Bloom being considered as its originator. According to Bloom et al. (1971), formative assessment can be understood as feedback that is associated with the possibility of correcting the teaching and learning process. This feedback enables the identification of how students learn, as well as the diagnosis of shortcomings, errors, difficulties and their causes in learning, with the aim of eliminating them and enhancing the efficiency of students' learning activities (Petlák, 2014). Formative assessment provides students with information about opportunities to improve while also shaping their personal development (Bell, Cowie, 2001; Allal, Lopez, 2005; Hattie, Timperley, 2007; Brookhart, 2008; Fluckiger et al., 2010; Wiliam, 2010; Flórez, Sammons, 2013). Through formative assessment, students learn to evaluate themselves, their classmates, and the facts around them (Ganajová et al., 2022). The OECD's definition of formative assessment from 2005 emphasizes the importance of monitoring student progress, identifying their needs and learning challenges, and adjusting the educational approach accordingly. The primary goal of formative assessment is to showcase students' strengths while also pinpointing areas of weakness, thereby facilitating targeted interventions during the assessed activity (Pávová and Váňová, 2020).

Formative assessment is often also called learning-supportive assessment (Jančová et al., 2024) or developmental assessment (Szarka, Szabó, 2024). Unlike grading, this type of assessment provides direct support, which is intended to help both students to improve their performance and teachers to discover the most appropriate ways of learning. This assessment has two important parts. First of all, the student becomes aware of the differences between the goal they are supposed to achieve and their current level of knowledge and skills. Moreover, they seek and acquire

ways to eliminate this difference. In this case, the assessment is not only a report for the student about what they have managed to achieve, but also an impulse for the teacher to regulate activities in the classroom (Jančová et al., 2024). The purpose of this type of assessment is to improve the students' learning and the teachers' teaching, diagnose the students' difficulties, and help the students understand the goals and processes of learning throughout the entire educational process. In parallel, answers are sought to the questions - *What has worked? What needs to be improved? How can we improve it?* (Shewbridge et al. 2014). Formative assessment relies on activities that offer insights into a student's current position in the learning journey, the desired goals, and the most effective strategies to achieve these goals. This means that formative assessment does not only focus on *what* and *with what* result students learn, but also *how* they learn. Black and Wiliam (2005) further emphasize that self-assessment is essential for effective learning and that students are more willing to accept criticism from each other than from their teachers.

The above information show that formative assessment represents a planned process (Popham, 2008), requiring two-way feedback, from teacher to student, or from student to teacher (Harlen, 2013). Its basic principles focus on learning; its aim is to determine students' knowledge, comprehension, and learning styles. It offers prompt feedback and identifies the educational requirements of each student, allowing for subsequent adjustments in teaching methods. *"Formative assessment helps students learn better and learn more. It is any assessment that provides useful information about the current state of a student's knowledge and skills. It is useful primarily in the sense that they will know where they are and what they need to do to learn something more."* (Starý, Laufková et al., 2016:12). However, as Flórez and Sammons (2013) or Bennet (2011) state, the application of formative assessment is particularly effective for students in primary education, as a positive impact of formative assessment on results in summative tests has been noted. The authors highlight its positive impact on the development of the students' personality, understanding of the students' learning progress, and the effectiveness of their education (Hattie, Clarke, 2018; Pane et al., 2015; Parr, 2016; Perry, 2015; Wiliam, 2011). Formative assessment deserves more attention, as the success or failure of a student cannot be determined based on the results of a half-yearly assessment of knowledge. On the contrary, the final assessment should be based on information about the students' daily performance and progress, and it is this information that should determine their progress in the educational process (Stiggins, 2002). Formative assessment plays a crucial role in primary education, as it facilitates continuous daily feedback, discussions, and support from both the teacher and students who assess themselves and their classmates. (Pitkänen, 2022).

1.1 Forms and techniques of formative assessment

There are three basic forms to formative assessment – self-assessment, peer assessment, and teacher assessment (Starý, Laufková et al., 2016), which should be applied in the educational process with equal distribution.

Self-assessment represents an autonomous evaluative process undertaken by the student, where the individual takes responsibility for themselves, their own learning, assesses their progress based on their personal standards, and seeks feedback for reflecting on their own activities, considering not only the curriculum standards and external assessment criteria, but also their own principles. It should be an everyday part of the student's learning at school (Pitkänen, 2022).

Peer assessment, on the other hand, consists of the assessment of a student by other students, whereby the student is more willing to observe and assess the work of others than his or her own and at the same time better understands its goals and quality criteria (Čtvrtníčková, Procházková, 2020).

Formative assessment of a student by a teacher, last but not least, is important for both parts in the teaching process. With the help of the teacher's assessment, the student finds out how they are thriving and progressing in education, while the teacher, on the other hand, reflects on the quality of their work and the level of their professional competences.

By applying the above forms of formative assessment in the educational process of primary education, the development of mutual social relations between students and teachers is positively influenced, the quality of students' abilities is influenced, the internal need of the student to improve is activated, and the student is stimulated to overcome problems and eliminate their shortcomings (Weissová - Bistáková, 2006).

Teachers can integrate individual forms of formative assessment into the teaching process using several techniques. The professional literature lists and describes a number of techniques applicable in the educational process of primary education. Since the aim of our paper is not to characterize individual techniques, we present them only as examples - Two Stars One Wish, Dot at the End of the Line, Traffic Light, Peer Assessment of Homework, Prediction Card (Jančová et al., 2024), Self-Assessment Sheets, Self-Assessment Cards, Metacognition, Departure Ticket, Concept Maps, Summary, Portfolio (Orosová et al., 2019), Symbols, Rationale, Modeling, Coat of Arms, Evaluative Communicative Circle (Čtvrtníčková, Procházková, 2020).

1.2 Formative assessment in Slovakia

The preference for summative over formative assessment is evidenced by the conclusions of the OECD Report on Evaluation and Assessment in Education: Slovak Republic 2014. The aforementioned OECD report calls for the application of formative assessment techniques in the educational system of the Slovak Republic (Shewbridge et al., 2014). These findings are also in alignment with the conclusions of the research conducted by Orosová et al. (2019), which show that teachers have strong preferences towards summative assessment in the educational process. Similarly, the international study TALIS OECD 2018, in its findings on the use of assessment to support skills for the 21st century, states that it is necessary to implement formative assessment in the educational system of the Slovak Republic, which is an impetus for the development of key competences of students (Rychnavská, Pappová, 2019). We would like to state that the results of the latest TALIS 2024 measurement, which also included the Slovak Republic, are not yet available, while, as stated by the OECD, their publication is planned for October 2025.

In accordance with the recommendations and global trends in the field of evaluation, some progress has already been taking place in the primary education system of the Slovak Republic at the level of school policy. As part of the current school reform, there is a significant shift from the traditional view of evaluating acquired information to an assessment that verifies the development of critical thinking, application of knowledge, and the development of competences. At the same time, greater emphasis is placed on other, alternative forms and methods of assessment, such as classification or verbal assessment. As part of the school reform, the key legislative curricular document of which is the State Educational

Program for Primary Education from 2023, formative assessment, including peer assessment and self-assessment, is gradually coming to the fore, using various techniques that provide students with the opportunity to evaluate their own progress. As we have already mentioned above, these methods allow students to monitor and evaluate their own performance and learning processes, compare them with previous results, all supporting personal growth and independent learning.

Although we view this shift as beneficial, we sought to understand how well-informed primary education teachers are about formative assessment, and whether they incorporate it into their teaching on a regular basis. It is crucial to understand that regardless of the y expectations of the school policy, the reality within classroom an often deviate from these expectations.

2. METHOD

The subject of this qualitative-quantitative (QUAL-quan) oriented research (Cameron, 2009) was the awareness of primary education teachers about formative assessment and its application in the educational process. Due to the subject of the research, our research group consisted of teachers of the primary level (teachers of grades 1-4). Altogether 50 participants joined the research, whose selection was carried out via purposive sampling. Obtaining research data in order to answer the set research questions - *What is the knowledge of primary education teachers about formative assessment?; Do primary education teachers apply formative assessment in the educational process?* was carried out through a structured interview with open-ended questions ensuring relatively equal conditions for all participants (Bačiková, Janovská, 2018). The collected research data was analysed via content analysis of the text, within which we analyzed ad hoc materials (Gavora, 2015) - interview protocols. We applied content analysis of the text in both quantitative and qualitative forms. In case of quantitative content analysis of the interview protocols, we analyzed manifest content, which expressed the frequency of responses, and in case of qualitative content analysis of the text, we focused on latent content revealing hidden meanings (Greguš, 2024). This process allowed us to obtain results that not only quantify the knowledge of primary education teachers about formative assessment, but also explore and explain it in more depth.

3. RESULTS

This report outlines the results of our investigation with a focus on analysis and interpretation of data obtained through interviews with teachers teaching at the primary level of education. To facilitate a better understanding of formative assessment, our research findings are depicted in the following graphical representations.

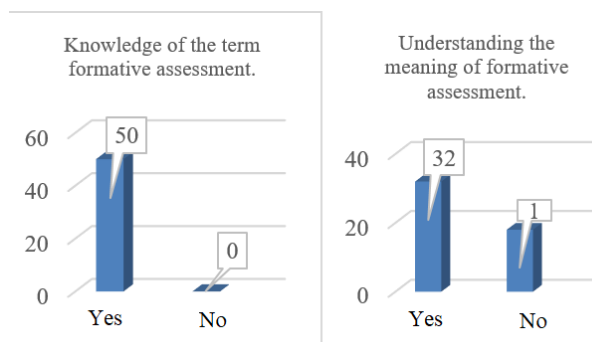


Figure 1: Knowledge and understanding of formative assessment

Figure 1 demonstrates that 100% of teachers (N=50) recognize the term formative assessment itself, or have already heard of it. Nevertheless, when inquired about their comprehension of its meaning, the outcomes varied. As the second graph of figure 1 illustrates, only 32 of the 50 teachers provided a positive response, which constitutes 64% of the total participants. Another 28 teachers expressed uncertainty regarding the definition of formative assessment.

These quantified data were further supported with qualitative data, which demonstrate that out of 32 teachers knowing the meaning of the term formative assessment, only 25% of participants (N=8) were able to clearly and unambiguously define it, and provide a concise description of formative assessment. They clarified that - *"it helps students improve their learning, provides some feedback on the basis of which the student can improve"*, *"it is not about measuring results, but rather about the process of assessment so that they know where in their progress they are situated and how to improve"*, *"it is developmental, the student has feedback from the teacher, from other students, which will help them in learning"*, *"with its help I actually give the student information about their progress"*. Another 75% of participants (N=24) were able to formulate only a sketchy and fragmented explanations such as *"it is creative assessment, but I do not know anything else"*, *"it has something to do with improving learning"*, *"that is how they assess themselves, and I assess them"*, *"it is related to the development of the student, but I cannot describe it more specifically"*.

Among the 28 teachers that declared unfamiliarity with the term, 7 (25%) had an internal lack of interest in the issue, as evidenced by their answers - *"I keep hearing about it, but I do not pay attention to it"*, *"I know that it is also mentioned in connection with the new state educational program, but until it is mandatory, I do not pay attention to it"*, *"if we did not have a million other obligations, I could pay attention to it, but like this..."*, *"it is everywhere, it is used everywhere, but no one has told me what to do with it"*, *"grades are grades, they have a better informative value"*. For the remaining 75% (N=21) of the teachers, lack of familiarity with the meaning of formative assessment was found to be caused by ambiguity and lack of clarity in the literature and teacher support materials. Evidence of these are the following statements of teachers - *"I did read about it but I got lost in the whole thing"*, *"when I looked for it, I found a lot about it, but I could not find anything written clearly and understandably for a teacher that would explain what exactly it is"*, *"even when I did look something up, there were just such general descriptions, nothing specific"*, *"what I saw, it is called differently everywhere, everybody understands it differently, and I can only deduce from that what it probably means"*, *"only the methods are described specifically, but I did not find clearly defined formative assessment, it is just so roundabout"*, *"I have been to training too, but everything was explained in a manner too difficult to understand"*.

Subsequently, we focused on finding out whether teachers were familiar with the forms and techniques of formative assessment. The quantified research data are presented in the graphs below.

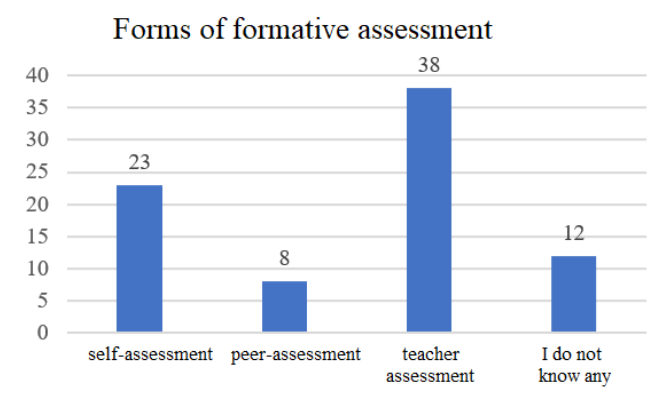


Figure 2: Forms of formative assessment

As we can see in the graph above, the most represented form was teacher evaluation, which was reported by 76% of participants (N=38). Subsequently, 46% teachers (N=23) included student self-assessment as a form of formative assessment and 16% (N=8) identified peer assessment as a form of formative assessment. As many as 24% (N=12) indicated that they did not know any forms of formative assessment. Analysis of the research data also revealed that only 25% (N=8) were familiar with all the three basic forms of formative assessment, whose statements indicated a clear understanding of the subject matter. This data is also consistent with our previous findings, which declared that 8 teachers were able to clearly describe the meaning of formative assessment. We would highlight that of the remaining 30 teachers identifying teacher evaluation as one of the forms of formative assessment, 76.70% (N=23) of the responses were uncertain and rather guessing in nature, which is confirmed by the following statements of the teachers – "so, it is an assessment, some form, that could be teacher evaluation", "probably teacher evaluation", "I can see that the teacher could evaluate the pupils here", "I will try teacher evaluation". It is also important to note that a similar trend was observed in the self-assessment responses, with 65.20% (N=15) of the 23 responses being based on guessing.

Following the forms of formative assessment, our research further focused on primary teachers' knowledge of formative assessment techniques. We present our findings in the graph below, which is subsequently interpreted.

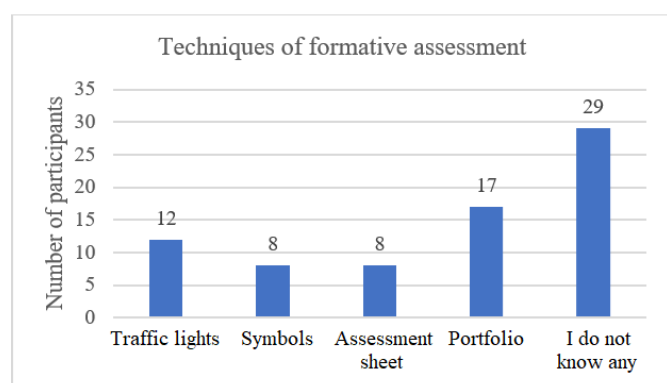


Figure 3: Techniques of formative assessment

Based on the analysis of the research data, it was found that as many as 58% (N=29) of the teachers do not know any formative assessment techniques. In contrast, portfolio had the highest representation, yet only 34% (N=17), with only 8 teachers responding unequivocally to this form of formative assessment. An additional 22% (N=11) of the responses were also speculative in

nature, such as – "I could say portfolio at this point, that one fits everywhere", "a portfolio will definitely fit here", "I would guess that one technique would probably be a portfolio". Only 16% (N=8) of the teachers referred to alternative formative assessment techniques, such as symbols and the assessment sheet. These teachers are the same individuals who, as previously noted, possess knowledge regarding formative assessment. Traffic lights was mentioned by 24% (N=12) of the participants, while 9 responses were unambiguous and the other 3 were based on speculation, as shown by the following statements – "I think I have read about something like traffic lights", "in the training they talked about some kind of traffic lights, but I only remember the name", "I think traffic lights, I have heard about it somewhere".

By the end of our research, we were also interested in examining how teachers utilize formative assessment in the educational context. The outcomes of our study are depicted in the graph below.

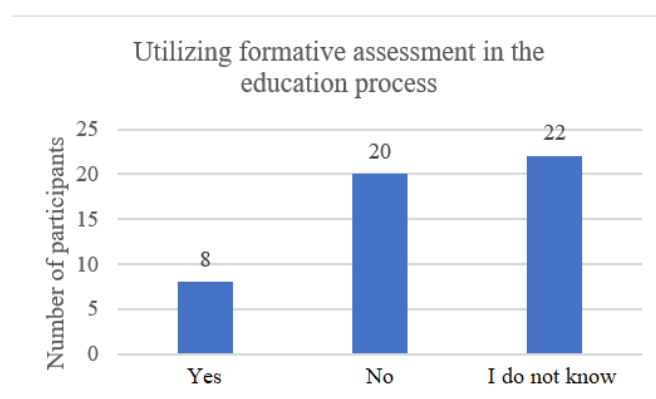


Figure 4: Utilizing formative assessment at the primary level of education

It was found that only 16% (N=8) of teachers apply different forms and techniques of formative assessment in the education process, which is supported by their following statements – "yes, I try to give feedback all the time, how they worked, what they could improve", "in every lesson I include some form, sometimes I have the pupils evaluate the pupil, other times I use them to evaluate themselves either by using cards or evaluation sheets or verbally, it depends on the type of lesson and the time", "almost every lesson has some element of formative assessment, the pupils are happy to evaluate themselves or evaluate another pupil", "yes I do. I have smiley faces displayed in my classroom, we use them as symbols for different types of assessment", "yes, all pupils have their own traffic lights and at the end of the lesson they display their individual colours". Moreover, the graph illustrates that 40% (N=20) of the teachers claimed they did not engage in formative assessments during the education process. However, insights from our qualitative inquiry – *What assessment forms do you implement?* demonstrated that despite teachers' beliefs of not using formative assessments, the evidence suggests otherwise, with 65% (N=13) of them using them actively, which is also supported by the following statements – "no I do not use formative assessment, I tend to assess them verbally, their progress and of course with grades", "I do not use formative assessment, but we do portfolios, which we assess", "I do not apply formative assessment, I use summative assessment and assessment when the pupils assess each other, or they assess themselves, or I assess them", "no, we have learnt that after each lesson the pupils pick up a card which symbolises how they have understood the material". The following category, the I do not know response, was reported by 44% (N=20) of the teachers. Nevertheless, similar to the previously mentioned no response, the answers to the supplementary question revealed that while teachers may be unaware of their use of specific forms and techniques of formative assessment, our analysis

indicates otherwise, as we found elements of formative assessment present in the statements of all 20 teachers.

4. CONCLUSION

Contemporary society calls for assessment to be not limited to only checking pupils' achievements, but above all to become a way of supporting and discovering their potential. One way of developing the pupil through assessment is to apply formative assessment in the educational process.

The objective of this research was to assess the level of knowledge and understanding of formative assessment among primary school teachers and to evaluate whether they incorporate formative assessment into their educational methodologies. We recognize that the results of our study may not be universally applicable, given the small sample size; however, they yield qualitative data that can inform subsequent research. Notably, it has been found that teachers' familiarity with formative assessment is lacking, despite its prominence in current educational discussions.

Our research revealed that while teachers recognize the term, 84% (N=42) do not fully understand its meaning. Additionally, 14% (N=7) of teachers indicated that their unfamiliarity with formative assessment is due to a personal disinterest in the topic, whereas 42% (N=21) attribute their confusion to the unclear information presented in literature, support resources, and training programmes.

Additionally, our research revealed that a significant number of teachers lack familiarity with the various forms and techniques of formative assessment, as only 16% (N=8) were able to accurately identify these forms. A notable 76% (N=38) of the responses were based on guessing. In terms of formative assessment techniques, we discovered that 58% (N=29) of teachers were unaware of any specific techniques. Among the few techniques mentioned, only four—traffic lights, symbols, assessment sheet, and portfolio—were identified, with the portfolio being the most frequently referred to. However, it is important to note that 22% (N=11) of the responses regarding the portfolio were also speculative in nature.

According to the analysis of the manifest content of the text, it was determined that merely 16% (N=8) of educators implement formative assessment within their teaching practices. However, a deeper examination of the latent content revealed that among the teachers who reported either not applying or being uncertain about their use of formative assessment (N=42), a significant 66% (N=33) inadvertently engage in formative assessment during primary education. We view these findings as encouraging in light of contemporary educational standards, yet it is clear that there is a pressing need to enhance primary education teachers' understanding of formative assessment, both theoretically and practically. Consequently, in light of the ongoing reforms, we advocate for in-service training providers to include training on this subject and to develop courses that emphasize the application of forms and techniques of formative assessment in primary education.

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