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# Phenomenon of differentiation as a basic condition for inclusion in primary education

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***Abstract*—**This study focuses on the current trend of increasing the quality of education, which brings with it increased demands on teacher competences in the implementation of differentiated instruction for primary students from the very beginning of schooling. The key subject of the study investigation is the inclusive concept of differentiated instruction, which represents a complex modification of the educational content, process, product and evaluation of the educational process. According to the Strategies of Educational Policy of the Czech Republic until 2030+, ensuring comparable and high-quality teaching in primary schools by introducing internal differentiation and individualisation is a key strategy for improving heterogeneous collectives' teaching quality. However, teachers are not sufficiently prepared for this reality, and very little relevant literature exists. Using a qualitative study design that includes participant observation and semi-structured interviews with seven teachers from three regions of the Czech Republic, this paper seeks to systematically map the implementation of these pedagogical strategies in the years 2021-2023 with first- and second-year primary students in the subjects of Czech language and mathematics. A multi-case study of seven teachers presents a longitudinal study of the implementation of differentiated teaching strategies with a focus on its inclusive concept, which is reflected in all components of the educational process. This dissertation highlights the urgent need for further study in this critically important area, especially considering the lack of exploration of pedagogical means of differentiation and individualisation in the Czech study field.

***Keywords***: Internal differentiation, inclusive education, pedagogical means of differentiated teaching, individualisation

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## I. INTRODUCTION

THERE has been a significant shift towards an inclusive approach in recent decades, reflected in many countries and at different levels of education systems. Societal and educational structures have undergone a transformation that has moved from segregating pupils with different kinds of disabilities into isolated institutions special schools, or even excluding them from mainstream education altogether, to integrating them to provide them with a basic education. The current situation allows pupils with disabilities to be educated together in standard classes. An essential element of this transformation is a new understanding of children's individuality and needs, reflecting a paradigm shift in the education system's perception of the individual. This shift conceptualises the pupil as a unique individual with his or her own specific and differentiated needs, as well as a unique inner world. According to Helus (2012), placing the learner at the centre of the pedagogical process is crucial, which requires adapting teaching to his or her specific needs, based on a combination of humanistic, pedagogical, special education, and didactic principles. Hattie (2009) extends this perspective by emphasising the need to modify the educational content to meet the needs of the learners. According to the Strategies for Education Policy 2030+, ensuring comparable and high-quality teaching in primary schools is achieved by introducing internal differentiation and individualisation, enabling better quality education for heterogeneous collectives of pupils.

In the foreign discourse, differentiation is viewed inclusively as a complex adjustment of all components of the educational process according to individual aptitudes and abilities (Melles & Bellay, 2022; Lauria, 2010; Tomlinson, 2022). The authors emphasise that it is crucial to consider students' readiness, interest in the topic, and a learning profile that reflects each student's abilities when planning, implementing, and evaluating instruction (Melles & Bellay, 2022; Lauria, 2010; Tomlinson, 2022). Inclusive differentiation promotes a supportive learning environment and recognises the classroom as a heterogeneous collective with diverse student needs (Tomlinson, 1999; Deunk, Smale-Jacobse, de Boer, Doolaard, & Bosker, 2018). High-quality differentiation contributes to effective teaching and increased student engagement regardless of ability and social background (Spratt & Florian, 2015). Systematic teacher support, professional development, and collaboration between school, family, and community are key, and differentiation should be integrated into all components of the educational process (Melesse & Belay, 2022; Tomlinson, 2022; McGillicuddy, 2021).

In Czech scientific discourse, internal differentiation is often interpreted as dividing pupils into groups according to their abilities. This approach allows the adaptation of teaching content but lacks an inclusive concept of differentiated teaching. Veselý and Matějů (2010) investigate the implementation of internal differentiation in Czech schools and identify flexible grouping and adaptation of teaching methods as key elements that influence the educational process, highlighting the risk of widening educational inequalities. Navrátilová (2020) analyses the implementation of group work and its impact on learning and pupils' performance. The inclusive concept of differentiated instruction, which would comprehensively include all components of the educational process, has not yet been systematically developed in the Czech Republic.

The study methodology includes key educational concepts such as Bloom's revised taxonomy (Anderson et al., 2001). Vygotsky's zone of proximal development (ZPD) and Bruner's concept of scaffolding (Bruner, 1984). The study contributes to inclusive education by developing the Inclusive Differentiation Model, which incorporates a comprehensive approach to differentiating all components of the educational process and allows for dynamic adaptation of instructional strategies based on ongoing evaluation of student development, thus effectively enhancing inclusivity in heterogeneous school populations.

**Theoretical background of the study**

The theoretical part will present pedagogical means of differentiated teaching, including methods, procedures, and strategies used to adapt the educational process to students' needs. This means differentiating the educational process's content, process, product, and evaluation, considering each student's aptitudes and abilities (Doubet & Hockett, 2017; Tomlinson, 2018, 2022). Finally, the author's Inclusive Differentiation Model will be presented, integrating these resources into a comprehensive framework. In the context of means of differentiation, it is crucial to define the concept of intrinsic differentiation first. Instructional differentiation is using proactive, flexible planning and inclusive methods to create adequate learning experiences that meet the needs of all students in heterogeneous classrooms (Melles & Bellay, 2022; Lauria, 2010; Tomlinson, 2022). Differentiation of instruction at the whole class level focuses on modifying content, process, product, and assessment to address individual learners' assumptions and preferences.

Some scholars agree that it is essential to consider students' readiness in planning, implementing and evaluating differentiated instruction (Melles & Bellay, 2022; Lauria, 2010; Tomlinson, 2022). For example, their abilities and skills in a particular subject, their interest in the subject or topic, and their learning profile, which includes each student's individual abilities and aptitudes. This approach ensures that the pedagogical resources of differentiated teaching systematically reflect the diversity of pupils and promote inclusive education.

**Differentiation of educational content**

Differentiated instruction emphasises the key role of structuring content to best suit learners' diverse needs and abilities. In this context, content must be tailored to reflect learners' goals and needs, allowing for targeted support for their learning journeys. Content adaptation within a differentiated approach is essential for each pupil to work at their level. According to Tomlinson (2017), content is the input to teaching and learning (Doubet & Hockett, 2017; Mellesse & Bellaye, 2022; Tomlinson, 2017). Content differentiation involves two key strategies. The first strategy involves tailoring the content to students' individual needs, which maximises the effectiveness of instruction by ensuring that each student is working with material appropriate to his or her abilities. The second strategy focuses on modifying methods and making content accessible, allowing students to process the same material differently and achieve higher quality and more meaningful understanding (Tomlinson, 2017; Doubet & Hockett, 2017; Mellesse & Bellaye, 2022).

The content of the curriculum is defined in the Framework Curriculum for Primary Education and further specified in individual school curricula. The expected outcomes, which are binding, serve as a benchmark for classifying pupils. The minimum level of mastery of the outcomes is set following the School Curriculum. On the recommendation of the pedagogical-psychological counselling centre, the outcomes may be modified for pupils with special educational needs, including a reduction of the objectives to the minimum level according to the Framework Educational Programme. It is necessary to analyse how these modifications affect the processes of individualisation and differentiation in teaching, with the differentiation of objectives playing a crucial role. This aspect will be discussed in detail in the following section.

**Differentiation of lesson objectives**

The differentiation of lesson objectives focuses on formulating clearly defined objectives based on a core curriculum representing the minimum range of knowledge necessary for instructional time, with the potential to support further student development. The extended curriculum includes elements focused on developing social skills, emotional intelligence, self-reflection, critical thinking, and creativity, and it is accessible to all pupils (Tomlinson, 2007). This flexible approach allows the teaching to be tailored to the specific needs of pupils and to support their individual development.

Learning tasks are an essential tool for achieving learning objectives, as they allow learning content, difficulty, and progression to be adapted to students' needs. They include three main aspects: content, operational, and motivational (Helus, 2005). The content aspect is based on socio-historical experiences and structures the learning, thus ensuring relevance and continuity. The operational aspect involves learners' activities, reflecting different difficulty levels, volume, and time demands adapted to individual needs. The motivational aspect focuses on learners' interests and needs, increasing their engagement in the learning process. This approach is supported by a study by Doubet and Hockett (2017) and Tomlinson (2017), highlighting the importance of differentiation for effective teaching and achieving learning goals.

The theoretical framework of goal differentiation is a key tool for teachers who want to effectively differentiate instruction and provide students with optimal personal and academic development conditions. It allows teachers to purposefully modify instruction content to match students' interests, abilities, time needs, and specific requirements, leading to higher motivation and better results.

**Differentiation of the teaching process in a heterogeneous group of students**

Another key differentiation component is the learning process, which, as Tomlinson (2001) states, involves activities through which students acquire the presented content. This process includes differentiation of teaching methods, tasks, selection of materials and aids, flexible learning pace, and the level of support provided (Coubergs et al., 2013). Tomlinson (2017) states that quality teaching is based on thoughtful planning of strategies tailored to the needs of individual learners. An effective plan includes modifying content and methods and developing four main components: knowledge, understanding, dispositions, and skills (KUDs) (Doubet & Hockett, 2017). Knowledge is the body of information and facts necessary to solve tasks, while understanding helps to connect new knowledge to previous experiences, thus ensuring more sustained learning. Skills are practical abilities that enable students to use knowledge effectively, including critical thinking, problem-solving, and communication, which are essential for mastering complex tasks. Readiness reflects pupils' overall personal development in the cognitive, emotional, and social domains. The study also points to the need for differentiated instruction in heterogeneous classroom teams. (Deunk et al., 2018; Doubet & Hockett, 2017; Tomlinson, 2017, 2022).

**Learning tasks in the context of differentiated instruction**

In didactic literature, it is often understood as a tool for practical and theoretical activities that lead to acquiring knowledge and skills (Janiš & Loudová, 2006). Slavik, Kalenge, and Demers (2018) refers to the learning task as "the practice of all practices", which forms the basis of all educational activities. Nightingale considers the learning task to be the "*central prototype*" that is characteristic of all variants of educational practices and determines their specific educational character, the "practice of all practices" or the "queen" of all practices. The teaching task is "an intentional phenomenon, an implicit or explicit command, at the same time a stimulus to improve, correct or eliminate a deficiency. In the most general sense, learning tasks are a natural and necessary part of life, in which each individual is constantly confronted with the need to solve problems that simultaneously bring lessons to him or her (Slavik et al., 2018).

Tomlinson and Strickland (2005) and Doubet and Hockett (2017) highlight the importance of differentiated tasks designed with pupils' individual needs in mind to support their cognitive development.

Semrádová (2022, 2023) argued that these tasks stimulate critical thinking, promote independence, and develop pupils' ability to apply knowledge in new contexts. Štech (2021) also emphasises the key role of implementing supportive concepts such as the zone of proximal development (Vygotsky, 1978) in solving differentiated tasks.

**Zone of proximal development and its importance in solving the learning problem**

The zone of proximal development (Vygotsky, 1978) is a key element in the analysis of educational processes, revealing the difference between an individual's actual abilities and those that can be achieved with the support of a teacher. This concept offers a sophisticated understanding of learners' potential and reveals new dimensions in the educational process, linking developmental, learning, and educational psychology (Vygotsky, 1978).

Vygotsky (1978) points out that every psychological function first emerges at the social level and is then internalised at the individual level, contrasting this with Piaget (1966), who considers speech to be initially egocentric, gradually changing to social. The child develops psychological functions through communication and environmental cooperation (Vygotsky, 1978). Vygotsky further emphasises that functions that emerge in interaction with others are gradually transferred to the level of individual thinking, allowing learners to apply new concepts and solve problems independently, with a decreasing need for external support. This approach fosters the development of autonomous thinking and the independent application of acquired skills (Vygotsky, 1978). Bruner (1976) builds on Vygotsky's theory with the concept of scaffolding, which provides a support structure that enables learners to progress to higher levels of understanding. This approach involves motivating, guiding, and controlling the learning process, thereby promoting independent thinking and autonomy for learners. Dynamic Assessment (DA), associated with the zone of proximal development, assesses the potential of learners through an interactive process that involves measuring current abilities and their development with adequate support (Poehner, 2008; Lantolf & Poehner, 2014).

Concept of Bloom's revised taxonomy of educational objectives (Anderson et al., 2001) and its implementation in a learning task

The revised Bloom's Taxonomy of Educational Objectives (Anderson et al., 2001) is an important theoretical framework for systematising educational objectives and linking them to levels of cognitive processes, which is crucial for differentiating instruction. The original version by Bloom (1956) included six cognitive levels: knowledge, understanding, application, analysis, synthesis, and evaluation. The revised model (Anderson et al., 2001) extends this concept to a two-dimensional structure that includes types of knowledge and cognitive processes. This model focuses on the cognitive domain, as opposed to the original version, including affective and psychomotor domains. Nevertheless, it acknowledges that cognitive goals may include affective elements, such as developing attitudes towards learning tasks, but explicitly focuses on cognitive processes.

The metacognitive knowledge integrated with this taxonomy is central to learners' ability to plan, monitor, and evaluate their learning progress, including setting goals, choosing strategies, monitoring progress, identifying errors, and making adjustments based on feedback (Anderson et al., 2001). The revised version of Bloom's Taxonomy of Educational Objectives (Anderson et al., 2001) makes major changes in the concept of cognitive processes, such as changing the concept of understanding to comprehension, which represents the active processing of information and promotes critical thinking and application of knowledge in a variety of contexts. Another significant change is the replacement of synthesis with the dimension of create, which emphasises creative thinking and problem-solving, reflecting the incorporation of creativity into educational goals (Anderson et al., 2001). The dimensions of cognitive processes are expressed through verbs that identify thinking activities such as remembering, understanding, applying, analysing, evaluating, and creating, supporting the development of metacognitive skills and effective instructional management (Anderson et al., 2001).

Czech and international Study studies have repeatedly confirmed the importance of the revised Bloom's taxonomy (Anderson et al., 2001). Rule and Lord (2003) integrated the levels of the revised Bloom's taxonomy of learning objectives (Anderson et al., 2001) into curriculum units, which led to increased student engagement and improved learning outcomes. In the Czech context, Semrádová (2022, 2023) further extended these findings and demonstrated that differentiation of learning tasks increases students' motivation and engagement in the educational process. This framework illustrates how scaffolding (Bruner, 1984) facilitates students' transition from easier to more complex tasks. The approach allows tasks to be tailored to the individual needs of learners while promoting their cognitive development and autonomy in the learning process. According to Ryan and Deci (2000), autonomy is a key psychological need that motivates pupils to develop independent thinking and decision-making.

## II. OBJECTIVE OF THE STUDY

This study explores the understanding of the inclusive potential of internal differentiation in the Czech education system.

## III. METHODS

**Research approach**

The study adopted a qualitative approach. Strauss and Corbin (1999) state that qualitative study is based on situational analysis, which contributes to the collection of key data, and this approach is based on theoretical underpinnings, the social perception of the studyer, and the studyer's ability to maintain analytical distance. The case study methodology was chosen in this study, whose case under investigation is a teacher and his implementation of pedagogical resources in all components of the educational process. This approach allows for a detailed analysis of specific situations, essential for understanding complex phenomena in their natural context. It includes an analysis of the interactions and processes shaping the practice of differentiated instruction. Furthermore, the case study design allows not only to identify and analyse pedagogical strategies aimed at differentiation and individualisation, but also to consider the influence of contextual factors such as school policies, pedagogical culture, and individual teacher approaches. Due to its flexibility and focus on context, the case study provides valuable insights that contribute to developing theoretical and practical aspects of differentiated education (Novotná et al., 2019).

**Research design**

The study problem is the analysis of differentiated teaching at the primary level of primary schools. The aim is to map, through a multi-case study, how differentiated teaching is implemented and contributes to inclusive education in heterogeneous groups of pupils. This study is conditioned by the need to respond to the diversity of learning needs and abilities of pupils in different classes, which is crucial in the current context of inclusive education. Current practice shows the lack of preparation of many teachers to effectively implement differentiated instruction and the lack of relevant literature and empirical studies in this area. This fact underlines the need to develop teachers' professional competencies and to broaden their knowledge of pedagogical practices that enable them to respond effectively to the diversity of pupils. The study objective is divided into three specific goals: professional, practical, and individual (Maxwell, 2013). The professional goal consists of expanding knowledge about differentiated instruction methods and identifying effective practices in heterogeneous classrooms, which fills gaps in Czech study and provides a basis for formulating study questions. The practical goal focuses on identifying and analysing key dimensions necessary for implementing differentiation in education, in line with the Strategic Plan of the Czech Education Policy 2030+ (Fryč et al., 2020). The Studyer's individual goals focus on applying the findings in his/her pedagogical practice and improving didactic approaches

when working with heterogeneous groups of students, including enriching the preparation of future teachers.

The study investigation focused on the analysis of pedagogical means of differentiation of content, process, product, and evaluation in the context of planning, implementation, and evaluation of the educational process in diversified classrooms. The study draws on theoretical frameworks that emphasise the importance of a differentiated approach in education (Doubet & Hockett, 2017; Tomlinson, 2017, 2022).

**Participants**

The study participants involved teachers selected from the School Education Programmes (SEPs) of individual schools, which were carried out with a focus on differentiated instruction and pupils' individual needs. The selected female teachers were included based on their active approach to differentiated instruction and significant role in implementing inclusion in the school environment. The selection of the teachers was carefully consulted with school leaders, providing insight into their teaching methods and experiences, which are key to analysing differentiated approaches in real teaching situations. To ensure the reliability of the selection, individual interviews were conducted with school principals and the seven selected respondents, which provided a more detailed perspective on their professional backgrounds. The study sample was drawn about the length of teaching experience, varied experiences with differentiated instruction, and other aspects of the respondents' professional development. This sample includes teachers with teaching experience ranging from 2 to 30 years, ensuring a representative range of approaches and methods in teaching. Ensuring variability in years of experience and teaching approaches allowed for detailed comparison and analysis of differences in differentiated teaching strategies across different school settings. The study focused on analysing the use of pedagogical resources and strategies for differentiated instruction during the educational process's planning, implementation, and evaluation and identifying key factors contributing to differentiated instruction's effectiveness.

*Table 1: Analysis of the respondents of the survey*

| Teacher's name | School | Practice | Focus of participants |
|---|---|---|---|
| **Veronica** | Elementary school Polabí | 8 years | Focus on adaptation of methods in a heterogeneous team, development of skills in inclusive education, regular training on inclusive education, and differentiation of teaching methods. |
| **Ivana** | Elementary school Polabí | 15 years | Planning learning situations with an emphasis on the content and objectives of teaching, adapting learning objectives to the specific needs of students. |
| **Simona** | Elementary school Hradečanka | 5 years | Specialising in differentiated instruction, collaborating with a team of experts to support students with specific needs, using diagnostic methods and tools to identify reading needs. |
| **Šárka** | Elementary school Hradečanka | 20 years | The use of differentiated learning methods, adaptation of learning content, processes, products, and assessment according to students' individual needs, focus on differentiation of learning tasks in mathematics. |
| **Clara** | Primary School of Žižkov | 12 years | Implementation of individualised pedagogical approaches for pupils with special educational needs, focus on reading skills, content differentiation, and teaching methods. |
| **Lenka** | Primary school Ostřeší | 30 years | Application of differentiated teaching methods, participation in training for developing pedagogical competencies, and adaptation of teaching to heterogeneous class composition. |
| **Vlaďka** | Peškova Primary School | 11 years | Focus on creating a learning environment that respects the individual needs of pupils, effective planning, implementation and evaluation of differentiated instruction. |

**Data collection methods**

***Participant observation***

The participant observation was conducted directly in the classrooms where differentiated instructional methods were applied, thus capturing the dynamics of the instructional process in its natural environment. This approach allowed the Studyer to interact with teachers and students and to obtain data not only on the verbal but also on the non-verbal elements of the learning environment. According to Spradley's (1980) model, the observation was conducted in three phases: a descriptive phase to gain an orientation to the environment, a detailed phase focusing on specific pedagogical practices, and differentiated teaching strategies.

***Semi-structured interviews***

This structured procedure allowed for the capture of different dimensions of the teaching process, including how teachers adapted instruction to students' individual needs. Semi-structured interviews were used as a complementary method to observation, aiming to gain information about teachers' pedagogical decisions and strategies. These interviews were conducted with teachers and school administrators and were designed around the main and specific study questions related to differentiated instruction and its methods. The semi-structured interviews provided valuable insights into the subjective experiences of the respondents, which were subsequently analysed using the coding system in MAXQDA 2022.

***Documents analysis***

Analysis of school documents such as school curricula, assessment records, and pupil portfolios provided further context for interpreting the findings from the observations and interviews. This documentation was key to understanding how differentiated instructional strategies are implemented in the learning process and how they are anchored in curriculum documents. The combination of participant observation, semi-structured interviews, and document analysis enabled the development of comprehensive case studies that detail the implementation of pedagogical means of differentiation. This integrated methodological approach has contributed to a more effective understanding of the processes of teaching differentiation, thus contributing significantly to the achievement of the study objectives.

**Data analysis**

For data analysis, case reports were created for each case studied, which included data obtained from observations and interviews. The case reports provided a holistic view of the issue and allowed for linking different sources of information. The interviews with teachers conducted in Stages 1 and 2 of the study were recorded on a dictaphone, transcribed into electronic form, and subsequently analysed. At the same time, the texts were annotated and provided with comments with interpretative potential, which facilitated further code development. This approach ensured that all key aspects of pedagogical practices and methods used to implement pedagogical means of differentiation in the Czech language and mathematics were captured. The semi-structured interviews were coded in MAXQDA 2022 using a colour coding system. Codes were clustered by similarities into categories that revealed analytic structures and patterns in the data (Strauss & Corbin, 1999). For accuracy and systematicity of analysis, a codebook was created for each case, containing a summary of all categories and corresponding codes. This procedure allowed for efficient comparison of key categories across cases. The individual codebooks were then printed, cut out, and physically clustered into final categories at the highest level of abstraction. This process led to integrating the coded categories and creating descriptions of the phenomena under study based on data comparisons between cases. The comparative approach revealed key patterns and differences in pedagogical practices between teachers, which allowed for identifying common and specific characteristics of each case. The key categories derived from the comparison were graphically represented using Drawio, which provided a clear and understandable graphical output for effective presentation and interpretation of the results. The results of the analytical coding enabled the development of specific categories for comparative analysis across the seven cases studied, leading to the formulation of a theory to characterise the use of pedagogical resources for differentiated instruction in planning, implementation, and evaluation.

**3. Ethical considerations**

In case studies and ethnographic studies, the ethical level of the

relationship between the Studyer and the actors involved is often discussed; however, ethical dilemmas should not prevent us from conducting study. We recommend putting ourselves in the participants' shoes and imagining how we would feel, which can be a starting point for thinking about ethical issues (Flick, 2004, p. 43). We chose to consider the ethical dimensions of the participants; the Studyer should obtain informed consent before commencing the study (Hammersley & Atkinson, 2007, p. 210). In our empirical investigation, we explained the topic and focus of the study to the school management, along with the plan and timeline, and asked for consent. The school management also promised to participate on behalf of their colleagues (teachers), which is a common practice in educational study (Průcha & Švaříček, 2009, p. 100); the person granting access also gave consent on behalf of colleagues and pupils. We obtained informed consent from pupils' legal guardians; these consents were duly sought and documented. The process included detailed information to parents about the objectives, methods, expected outcomes, and procedures for handling personal data; the study process conformed to general ethical standards and emphasised a commitment to transparency, respect for personal integrity, and data protection. Data were collected and stored securely and in accordance with applicable standards; the independence of participants was respected, and they were allowed to withdraw at any time without negative impact. This right was clearly communicated at the beginning and throughout the study.

## IV. RESULTS

**An empirical analysis of the categories of educational content planning and differentiated learning objectives**

Based on a comparative analysis conducted using MAXQDA 2022 software and applying cross-curricular and constant comparative methods, I identified three key categories of educational content differentiation that were consistently applied across the seven cases studied in planning the educational process. The analysis is based on the second specification question, "*Do you plan learning situations with specific pupils in mind, both in terms of the learning content and the stated learning objectives?* "The first category is the Core Curriculum as set out in the RTP, which forms a common foundation that meets the minimum standards and outcomes for all pupils as defined in the Framework for Education. The second category, the Narrowed Curriculum for pupils with special needs, focuses on developing individual learning plans based on the recommendations of the counselling facilities. Significantly, in three cases (teachers Lenka, Ivana & Šárka), it was found that teachers differentiate the curriculum in the planning area and create pedagogical support plans based on the needs and expectations of the pupils. These plans serve as a preventive measure for pupils before visiting the pedagogical-psychological counselling centre (PPP) and before a possible psychological examination. The last category, Enriched curriculum for above-average and gifted pupils, was applied by all but two teachers, demonstrating the desire to develop the potential of above-average and gifted pupils through an enriched curriculum.

The analysis confirms that respondents effectively implement differentiation methods that support a wide range of students' learning needs and aspirations, improving instruction's focus and effectiveness. Table 2 presents the application of the key categories of differentiation of learning objectives by the seven female teachers in their teaching practice.

*Table 2: Categories of goal differentiation in the educational process*

| Category / Teacher | Differentiation of objectives according to the specific needs of pupils and pupils with SPU | Differentiation of objectives about the time possibilities of the pupils | Differentiation of goals according to the needs and abilities of pupils based on pedagogical diagnostics | Differentiation of objectives according to interests and linking objectives in interdisciplinary contexts | Extension of targets for gifted pupils (Duchovičová & Koleňáková, 2020) |
|---|---|---|---|---|---|
| **Veronika (Elementary school Polabí)** | Support plans are prevention before support measures and then end. education plans are created according to PPP recommendations. | Flexible time frame, adapting the pace of teaching according to individual needs and pace of learning. | Diagnostic methods (observation, testing, analysis) are used to determine needs and cooperation with PPP. | Projects and tasks based on students' interests (e.g. animals) to motivate, connect to the real world. | Adaptation of activities to support the gifted in areas such as science, mathematics. (Duchovičová & Koleňáková, 2020) |
| **Ivana (Elementary school Polabí)** | Individual plans based on diagnosis and recommendations, cooperation with PPP. | Adapting the pace of teaching to time needs, ensuring sufficient time for learning | Application of individual approaches according to needs and interests, integration of KUDs. | Planning objectives linking different disciplines, reflecting pupils' interests. | Extended curriculum and projects for the gifted |
| **Šárka (Elementary school Hradečanka)** | Individual plans for pupils with reading difficulties, use of expert recommendations, cooperation with a psychologist. | Adapting the pace and organisation of teaching to needs, providing space for learning. | Use of specific diagnostic methods (e.g. iSophi), targeted strategies. | Integration of content across disciplines, projects that match students' interests. | Expanding the curriculum and activities, promoting the development of critical thinking. |
| **Simona (Elementary school Hradečanka)** | Individual education plans for pupils with learning disabilities, specific methods and materials for reading, and cooperation with counselling centres. | Adapting the organisation and pace of the lessons to individual time needs. | Diagnostic methods for determining needs, focusing on reading skills. | Projects and activities linking different disciplines, taking into account students' interests. | Expanding the curriculum for gifted pupils, supporting talent development. |
| **Klára (Zizkova Elementary School)** | Individual goals for pupils with special needs, pedagogical support plans. | Adjusting timetabling, reducing the number of targets for pupils with limited time. | Setting targets according to diagnosis, focusing on maths for pupils with difficulties. | Planning objectives reflecting pupils' interests and linking to other areas. | Expanding targets for gifted pupils, supporting their development. |
| **Lenka (Elementary school Ostřeší)** | Individualised goals, pedagogical support for students with needs, | Adapting learning objectives to individual needs and | Use of diagnostics for goal setting, application of KUDs for | Integration of students' interests into educational goals, interdisciplina | Setting extended goals for gifted students, using the |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | flexible timing. | time constraints. | learning support, iSophi (Pekárková & Švandová, 2022) | ry approach. | revised Bloom's Taxonomy. | | with larger fonts, choice of colour schemes, adapted materials; pupils with learning difficulties: adapted text typography, paired reading, guided reading method, compensatory aids; pupils with difficulties in mathematics: simpler tasks, highlighting key words; gifted pupils in mathematics: more complex problem tasks |
| | | | | | | **Clara** | Cooperation with a special educator, the use of compensatory aids and diagnostic tests, half-days of Czech lessons focused on intensive work, individual approach to pupils. The promotion of structural cognitive modifiability by the Feuerstein method of FIE (Feuerstein, rand, & Rynders, 1988) enables pupils to actively reorganise their thought processes and achieve a higher level of cognitive flexibility. |
| **Vlaďka (Peškova Elementary School)** | Developing individualised plans for students with needs, flexible scheduling. | Adaptation of learning objectives to individual needs and time availability. | Use of diagnostics for goal setting, application of KUDs to support learning. | Integration of students' interests into educational goals, interdisciplinary approach. | Setting extended goals for gifted students, using the revised Bloom's Taxonomy. | **Lenka** | Differentiation of teaching materials and texts, use of compensatory aids, modification of dictations and teaching exercises, time consideration in assigning tasks, highlighting key words in the text, implementation of digital technologies |
| | | | | | | **Vlaďka** | Bloom's revised taxonomy includes categorising learning objectives according to levels of cognitive processes (memorisation, comprehension, application, analysis, synthesis, evaluation) and promoting critical thinking. The materials are adapted to the different abilities of the students. |

**Empirical analysis of the effectiveness of scaffolding in education**

In differentiated instruction, which emphasises individual differences between students, scaffolding is key (Van de Pol, Volman & Beishuizen, 2010; Dube, Bessette & Dorval, 2011). This approach allows teachers to adjust the difficulty of tasks and gradually reduce the level of scaffolding as pupils achieve greater independence and develop their skills, optimising their learning outcomes and helping to realise each pupil's potential. Veronica's teacher effectively implements scaffolding (Bruner, 1984) by using differentiated tasks structured according to difficulty, gradually moving from basic operations to more challenging tasks. This approach promotes the development of cognitive skills in the zone of proximal development (Vygotsky, 1976) and reflects the principles of Bloom's revised taxonomy (Anderson et al., 2001). By reducing the level of assistance, Veronika encourages students' development of independence, critical thinking, and evaluation. Ivana applies scaffolding in graded tasks, which she differentiates according to difficulty and volume, thus promoting individual student pacing.

Simona implements scaffolding to develop visual and cognitive skills through tasks that gradually increase difficulty, which increases students' analytical and interpretive skills (Sindelarova, 2016). Sharka uses a revised Bloom's taxonomy (Anderson et al., 2001) to structure tasks according to cognitive difficulty. Meanwhile, Klara applies scaffolding to gifted learners, enhancing their higher cognitive processes and gradually increasing their autonomy (Doubet & Hockett, 2017). Teacher Lenka uses scaffolding (Bruner, 1984) to adapt instructional materials for students with reading difficulties, incorporating text modifications and visual aids such as graphic organisers and mind maps to structure information and facilitate comprehension. The teacher differentiates tasks by time parameters, which allows students to work at their own pace, reducing stress and providing ample time to master the tasks (Snowling & Hulme, 2012; Novak & Cañas, 2008).

Table 3 presents the comparison of categories (scaffolding) for the respondents.

*Table 3: Scaffolding categories, comparisons of respondents*

| Teacher | Support scaffolding |
|---|---|
| **Veronica** | Spelling support (adapted dictations, shortening texts, highlighting errors), visual support in spelling teaching (help words on the desk), extension and adaptation of the curriculum (more complex tasks, logic puzzles), support for independent creation and creativity (own projects, tasks), application of the curriculum in practical projects (deepening understanding) |
| **Ivana** | Collaboration with a psychologist, ongoing diagnostic checks, differentiated self-assessment sheets, use of smileys, contract for absent pupils. |
| **Šárka** | Modification of dictations and teaching exercises (simplification of dictations, adaptation of exercises), differentiation of teaching materials and texts (highlighting of keywords, use of differently difficult texts), use of compensatory aids (reading rulers, special software programmes), time consideration in assigning tasks, implementation of digital technologies, support for scaffolding in reading. |
| **Simona** | Pupils with visual differentiation problems: presentation of texts |

In summary, scaffolding Bruner (1984) is a key element of differentiated instruction that includes various forms of visual and auditory support, task structuring, differentiation of instructional materials, and ongoing diagnosis.

## V. CONCLUSION

Current study confirms that inclusive differentiation is a key tool for adapting the educational process to pupils' individual needs, involving application in all components of teaching, such as content, methods, assessment, and pedagogical support. This approach enhances the quality of education and motivation and supports pupils' academic and personal development. However, analyses show that inclusive differentiation is not always fully used and is often limited to group work or task differentiation, while other aspects remain poorly integrated (Gaitas, Carêto, Peixoto, & Castro Silva, 2022; Deunk et al., 2018; Finklstein, 2019). Effective implementation requires targeted professional development for teachers, support from school leadership, and collaboration with experts. Its success requires systematic planning, quality support, and continuous teacher development, which is essential for improving inclusive education systems.

**Model of inclusive differentiation**

Within the study investigation, I have developed comprehensive and structured theoretical frameworks that contribute substantially to the understanding and implementation differentiation in the educational process. These frameworks provide teachers with applicable strategies for adapting instruction to students' individual needs, including those with special educational needs. They are analysed and presented in detail in my dissertation, using clear tables for practical application. The content differentiation framework provides a structured approach to tailoring the learning material according to the different knowledge and abilities of the pupils, ensuring that it is accessible and relevant to all pupils. This approach allows pupils to work with materials that meet their individual learning needs, contributing to an effective inclusive learning process. The goal differentiation framework focuses on adapting learning goals based on the individual potential of pupils. It enables teachers to set realistic and achievable objectives, respecting different levels of ability and knowledge. This approach promotes the development of personal and academic skills in all pupils, including those with lower educational achievement. The Differentiation of Instructional Strategies and Methods Framework provides teachers with guidance on selecting and applying methods and strategies adapted to the specific needs of individual students. The framework for differentiating learning tasks offers an approach to creating and adapting tasks that match pupils' abilities, increasing their intrinsic motivation and interest in learning. The framework for differentiating feedback and assessment enables teachers to tailor assessment and feedback to motivate and reflect individual pupils' development. The inclusive differentiation model represents an innovative approach that integrates the key components of the educational process, i.e. content,

process, product, and assessment, into a coherent system. This model enables teachers to effectively adapt instruction to the diverse needs of learners, including those with specific learning needs, which increases the effectiveness of instruction and promotes inclusion. The model of inclusive differentiation that I have developed, which has not yet been systematically elaborated in the literature, represents an innovative approach with significant potential for inclusive education. At the same time, its effectiveness and practical application require further theoretical and empirical study investigation.

## VI. CONFLICT OF INTEREST

There are no conflicts of interest.

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