PEDAGOGICAL AND DIGITAL TOOLS FOR ENSURING INCLUSIVE READINESS OF FUTURE PRIMARY SCHOOL TEACHERS

Toyirova Nazokat Moxirovna
Lecturer, Asia International University, Uzbekistan

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Abstract. The preparation of prospective primary school teachers for inclusive education requires the development of professional competencies that enable them to select, adapt and apply appropriate educational resources according to the individual needs of pupils. In this context, pedagogical, didactic, digital and assistive tools play an important role in transforming the principles of inclusive education into practical teaching activities. This article examines the role of educational tools in developing prospective primary school teachers' readiness to organise inclusive learning environments. Particular attention is given to adapted lesson plans, differentiated assignments, didactic cards, pictograms, visual schedules, audio materials, subtitled videos, electronic presentations, interactive resources, observation sheets, individual development maps and professional portfolios. The article also considers the importance of accessibility, individualisation and purposeful selection of educational resources. It is argued that the effective integration of traditional, digital and assistive tools into teacher education contributes to the development of professional competence and enables future teachers to organise learning activities that respond to pupils' individual abilities and educational needs.

1. Introduction. The development of inclusive education requires educational institutions to create conditions in which every pupil can access learning content, participate in classroom activities and demonstrate their abilities. However, the achievement of these objectives depends not only on the organisation of educational activities but also on the availability and appropriate application of pedagogical tools. Primary school teachers work with pupils who may have different levels of cognitive development, sensory perception, speech and communication abilities, mobility and

learning pace. Therefore, the use of identical educational materials and uniform methods of presenting information may create additional barriers for some pupils. In this regard, the teacher should be able to select and adapt educational resources in accordance with individual learning requirements. Such resources include printed and visual materials, didactic cards, adapted assignments, audio recordings, electronic presentations, interactive learning activities and assistive technologies. Article 24 of the United Nations Convention on the Rights of Persons with Disabilities (2006) emphasises the importance of appropriate support, accessible communication and suitable educational techniques and materials. This provision highlights the need to prepare teachers who can use educational resources effectively in inclusive classrooms. The UNESCO Global Education Monitoring Report (2020) also draws attention to the importance of addressing barriers that prevent learners from participating fully in education. This requires educational systems to reconsider the accessibility of curricula, teaching materials and assessment practices. For prospective primary school teachers, familiarity with inclusive teaching tools should therefore become an integral part of professional preparation. Students need to understand not only what educational resources are available but also why, when and how they should be used. The purpose of this article is to analyse the pedagogical, didactic, digital and assistive tools that contribute to developing prospective primary school teachers' readiness to implement inclusive education.

2. The Role of Pedagogical Tools in Developing Inclusive Readiness

Pedagogical tools represent the resources through which educational objectives are translated into organised learning activities. In inclusive education, their primary function is to make learning content accessible and to support the participation of pupils with different educational needs. The use of educational tools should not be understood as simply providing additional materials for individual pupils. Rather, it should be considered a systematic approach to organising the learning environment so that different pupils can access the same educational content through appropriate means. This understanding is consistent with the principles of Universal Design for Learning (UDL), which emphasise providing multiple means of engagement, representation, and action and expression. CAST (2024) presents these principles as a framework for designing learning experiences that reduce barriers and recognise learner diversity. Consequently, prospective teachers should develop the ability to select resources purposefully rather than use them only for visual decoration or technological innovation.

3. Adapted Lesson Plans and Individualised Learning Assignments

An adapted lesson plan is one of the essential tools for organising inclusive education. It enables the teacher to anticipate potential learning barriers and determine appropriate ways of supporting pupils during the lesson. An inclusive lesson plan should include clearly defined learning objectives, teaching methods, learning materials, differentiated assignments, time allocation and assessment approaches. For example, during a primary school lesson on a particular language topic, pupils may demonstrate their understanding through different activities. One

pupil may complete a written exercise, another may identify relevant information from picture cards, while another may explain the concept orally.

The educational objective remains common, but the ways of accessing the content and demonstrating achievement may differ. Differentiated assignments can be developed according to the complexity of the task, the amount of support provided, the presentation of information and the expected form of the response. For prospective teachers, preparing such assignments is an important practical activity. It develops the ability to analyse educational content and transform it into accessible tasks.

4. Didactic and Visual Tools for Inclusive Primary Education

Visual and didactic resources have particular importance in primary education because they make abstract information more concrete and understandable.

Didactic cards. Didactic cards can contain pictures, words, symbols, numbers and short instructions. They are useful for organising individual and group activities, reinforcing knowledge and providing alternative ways of completing assignments.

For example, in a literacy lesson, students may prepare cards containing pictures and corresponding words. Pupils can use these materials to identify objects, match words with images or construct simple sentences.

Pictograms. Pictograms are visual symbols representing objects, actions, concepts or instructions. They can support communication and help pupils understand classroom activities. For children who experience speech and communication difficulties, pictograms may provide an additional means of expressing needs, identifying activities and participating in learning.

Visual schedules. A visual schedule presents the sequence of activities through pictures, symbols or short written instructions. It helps pupils understand the structure of the lesson and anticipate transitions between tasks.

Large-print educational materials. Large-print texts and clearly structured worksheets can improve access to written information for pupils with visual difficulties. The teacher should also pay attention to the contrast between text and background, the readability of fonts and the organisation of information on the page.

Tactile and practical materials. Objects, models and tactile resources may provide additional opportunities for pupils to explore learning content through practical experience. Their use should correspond to the pupil's individual needs and the objectives of the lesson. Prospective teachers should learn to prepare these resources independently and justify their selection from a pedagogical perspective.

5. Digital and Assistive Technologies in Inclusive Education

Digital technologies expand the possibilities for presenting educational information and organising differentiated learning activities. Their importance in inclusive education is associated with the opportunity to provide information in different formats and support communication and participation.

Audio materials. Audio recordings and spoken explanations can provide alternative access to learning content for pupils who experience difficulties accessing

printed information. Teachers may prepare audio instructions, recorded reading materials and explanations of individual assignments.

Videos with subtitles. Subtitled videos can support access to audiovisual learning materials for pupils who experience hearing difficulties. They also provide an additional written representation of spoken information.

Electronic presentations. Electronic presentations enable teachers to combine text, images, diagrams, audio and video. Their structure should be clear, the amount of text appropriate and the visual elements accessible.

Interactive assignments. Interactive learning resources can provide opportunities for pupils to complete tasks at an appropriate pace, receive immediate feedback and repeat activities when necessary.

For example, a primary mathematics activity may include visual number representations, step-by-step instructions and interactive exercises that allow pupils to practise basic operations.

Digital communication resources. Digital communication tools may support interaction between teachers, pupils and parents. They can also provide additional ways of communicating instructions and sharing educational materials.

Assistive technologies. Assistive technologies include tools and devices that support access to information, communication and learning activities. Depending on individual requirements, these may include screen-reading software, magnification tools, alternative input devices, communication applications and text-to-speech technologies.

The selection of assistive technologies should be based on an assessment of the pupil's actual needs rather than the assumption that a particular tool is suitable for every learner with a similar disability.

It is therefore important that prospective teachers understand the educational purpose and practical limitations of digital and assistive resources.

6. Observation Sheets and Individual Development Maps

Monitoring pupils' progress is an essential part of inclusive teaching. Teachers need to understand how pupils participate in classroom activities, complete assignments, communicate with others and respond to educational support.

7. Reflective Diaries and Professional Portfolios as Tools for Teacher Development

Educational tools are important not only for supporting pupils but also for developing the professional competence of prospective teachers. A reflective diary enables students to record their observations, professional experiences and conclusions after practical classes and pedagogical practice.

The diary may include:

1. The educational situation observed.
2. The teaching methods and materials used.
3. The pupils' responses to the learning activities.
4. Difficulties encountered during the lesson.
5. The effectiveness of the selected educational tools.
6. Recommendations for improving subsequent teaching activities.

A professional portfolio provides a structured collection of materials demonstrating the development of a student's professional readiness.

It may contain adapted lesson plans, differentiated assignments, didactic materials, pictograms, visual schedules, digital presentations, case-study solutions, observation sheets and reflective reports.

The portfolio makes it possible to evaluate the development of students' ability to design, select and apply inclusive educational resources.

It also creates opportunities for self-assessment and professional development by allowing students to compare their initial work with materials prepared at later stages of their university education.

8. Discussion. The analysis indicates that pedagogical, didactic, digital and assistive tools constitute an important practical foundation for inclusive teacher preparation.

Their effectiveness is determined not by the quantity of resources available but by the teacher's ability to select and apply them according to specific educational objectives and individual pupil requirements. The principles of Universal Design for Learning provide a useful theoretical framework for understanding this process. They encourage teachers to present information in different ways, provide alternative opportunities for participation and allow learners to demonstrate their knowledge through different forms of expression. At the same time, digital technologies should not replace pedagogical interaction or professional judgement. A digital presentation, audio recording or interactive assignment becomes educationally valuable only when it responds to a clearly identified learning need.

Another important consideration is the development of prospective teachers' practical experience. Students should not only study descriptions of educational tools but also prepare them, test their accessibility, apply them in simulated lessons and evaluate their effectiveness during pedagogical practice. Therefore, higher education institutions should systematically incorporate the design and application of inclusive educational resources into relevant teacher education courses.

9. Conclusion. Pedagogical and digital tools play an important role in developing prospective primary school teachers' readiness to implement inclusive education. Their purposeful use enables future teachers to adapt educational content, provide alternative ways of accessing information, support communication and monitor pupils' learning progress. Adapted lesson plans, differentiated assignments, didactic cards, pictograms, visual schedules, large-print materials, audio resources, subtitled videos, electronic presentations and interactive activities contribute to improving the accessibility of classroom learning. Assistive technologies provide additional opportunities for communication, information access and active participation, while observation sheets and individual development maps support the systematic monitoring of pupils' progress. Reflective diaries and professional portfolios contribute to the development of prospective teachers' professional competence by enabling them to analyse their experience and evaluate the effectiveness of their pedagogical decisions. The study leads to the conclusion that the development of inclusive readiness requires more than familiarity with individual

educational resources. It requires the ability to identify learning barriers, select appropriate tools, adapt educational activities and evaluate the results of their application. Thus, the integration of pedagogical, didactic, digital and assistive tools into higher pedagogical education creates important conditions for preparing professionally competent teachers who can organise accessible, supportive and inclusive learning environments for all primary school pupils.

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