

MULTIMODAL APPROACH TO TRAINING OF TEACHERS OF PRESCHOOL EDUCATION INSTITUTIONS: FOCUS ON INTERESTS AND NEEDS

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ABSTRACT. In recent decades, the multimodal approach has gained traction across various fields, including mathematics, entertainment, education, museum design, and medicine, signifying a holistic shift in the academic realm. This study explores multimodality in the context of adult education, with a particular focus on its application in the training of preschool teachers. By examining the role of multimodal education as a transformative pedagogical strategy, this research identifies the significance of integrating various sensory modes—verbal, visual, audio, spatial, and temporal—into the educational process. Drawing on both theoretical analyses and empirical data collected from educators and attendees at the Institute of In-Service Training, this study highlights the importance of a multimodal learning environment that caters to the diverse needs and preferences of learners. The findings underscore the value of cooperative learning, critical reflection, and interactive learning technologies in enhancing cognitive engagement and reducing learner fatigue. This research advocates for the adoption of multimodality as a natural component of lifelong learning, necessitating the redesign of educational frameworks to foster flexible, adaptive, and dynamic learning experiences. The study concludes by suggesting further exploration into the application of multimodal approaches in various educational settings, including those involving learners with special educational needs.

Keywords: multimodality, transformative education, adult education, preschool teacher training, lifelong learning

INTRODUCTION

At the intersection of millennia, a new field of research emerged. In the academic world, a wide range of applications of multimodal approach to mathematics, entertainment, education, museum design, medicine is discussed (Ventola & Charles & Kaltenbacher, 2004; Krykoten & Baidak, 2020). The large-scale empirical research is based on the assumptions that learning and communication is the united integral branch in the modern world (Bezemer & Kress, 2015; Predborska, 2015; Kuznietsova, 2017; Kushnir, 2017).

Multimodality in the modern Ukrainian academic world is considered a component of didactics of transformative education. Analysing the phenomenon of adult education in the context of requests for the latest cognitive communication strategies, the scholars regard the didactics of transformative adult education on the basis of rational discourse, critical reflection and in the semantic perspectives of multimodal education (Horbunova, 2015; Predborska, 2015; Treniak, 2015; Kremen, 2020).

The phenomenon of multimodality is a rapid trend towards the integration of various sensory modes, reflecting various semiotic landscapes. Multimodal learning and multimodal environment focus on the study of meaning-making when perceiving not only verbal and visual, but also audio, spatial, temporal and other modes (Kress, 2009; Hudz, 2014, Kushnir, 2017).

The idea and technology of training of teachers of preschool education institutions at the in-service training of the Institute of In-Service Training (hereinafter - IIST) has recently changed. Currently, it is adapted to the personal and affective needs of teachers who do an in-service training to improve certain competencies (hereinafter - attendees) after a short period of full-time education, requiring individual transformations. According to the Law of Ukraine "On Education" (2017), adult education, which is a component of lifelong learning, is aimed at realizing the right of every teacher to continuous learning, taking into account his/her personal needs, priorities for the development of institutions and the needs of the urban economy.

Consequently, the study of the issue of organizing training of teachers of preschool education institutions is relevant. Its goal is defined as follows: outlining the role of a multimodal approach to organizing the training of teachers of preschool education institutions in advanced training courses. It involves the focus of the educational process on the interests, needs and requests of attendees, self-development through personal activity in a safe, motivating, diverse, interesting learning environment using collective and mutual learning opportunities (cooperative learning, collaborative learning), methods of teachers' activities, modern information and interactive learning technologies.

Since multimodality is relatively new in the pedagogy of higher education, it is important to review the basic concepts of this phenomenon. Therefore, the main objectives of the study are as follows:

- to clarify the concept of multimodality in education,
- to define the role of multimodality in modern approaches to adult education, in particular, teachers of preschool education institutions,
- to outline the prospects for the development of education with a multimodal approach as a means of improving teachers' skills.

MATERIALS AND METHODS

During the study, the following groups of methods were used. The group of theoretical methods included the analysis of philosophical, psychological and pedagogical literature, educational and methodological sources, regulatory documents of the Ministry of Education and Science of Ukraine on the problem of research. This facilitated systematizing the content, forms and methods of the in-service training. The group of empirical methods involved an observational method and a survey of teachers who provide the training (hereinafter – teachers) and attendees. The observation was carried out to assess the process of teaching educational modules by teachers of the Department of Pre-School and Elementary Education of the Institute of In-Service Training of Borys Grinchenko Kyiv Metropolitan University. The survey of teachers and attendees helped to justify ways and methods of improving the effectiveness of learning. As a result, an increase in the concentration of attention and activity of attendees during training sessions on graphic materials and methods of learning was noticed. At the same time, there is a decrease in visually noticeable fatigue, resulting in the use of multimodal approaches to training in the postgraduate education system.

The experimental methods made it possible to study the real state of training of teachers of preschool education institutions at the in-service training, to design the educational and methodological work with teachers in the system of postgraduate education in order to introduce a multimodal approach in the educational process, taking into account the interests, needs and requests of teachers of educational institutions. The mathematical methods involved quantitative and qualitative processing of the survey results. It proved the effectiveness of the use of multimodal integrated learning in the system of postgraduate education.

Referring to the Law of Ukraine “On Education” (2017), some principles of state policy of Ukraine on education should be singled out, namely: anthropocentrism, ensuring the quality of education, freedom in the choice of types, forms and pace of education, educational program, educational institution, promoting lifelong learning, accessibility for every citizen of all forms and types of educational services. Article 18 of this Law states that adult education is a component of lifelong education and is aimed at realizing the right of every adult to continuous education, taking into account one’s personal needs.

Horbunova (2015) shows that in the 21st century, there is a methodological turn to the holistic understanding of a person within the framework of adult education. She focuses on the shift from the Theory of transformative learning (mainly in the rational-cognitive paradigm) developed by Jack Mezirow to enactivism as a methodology (a combination of culturally determined patterns of cognitive activity and ontological reality of realizing one’s own educational interests), based on the principles of holism (“philosophy of integrity”), affectivity (light feelings and shades of feelings of satisfaction and dissatisfaction) and the emotionality of cognitive processes and their self-organization as complex dynamic systems.

It is necessary to highlight that it is still a fairly common belief that the knowledge is fundamental for learning. It means that only when the students’ minds gain new knowledge, they can understand better the shortcomings of a particular worldview or set of assumptions. In this regards, Horbunova (2017) claims that critical reflection in transformative learning is related to acquiring new information and evidence and in turn it is important for personal

transformation. Having received information about new facts and evidence about the real state of affairs, students can have a new understanding of some phenomena when they begin to doubt some of their prejudices in the process of their critical comprehension. This can change their views and habitual interpretations of experience in general (Horbunova, 2017, p. 98).

Revealing the complexity of the transformative process of adult learning, Horbunova (2015) shows that its implementation is possible through didactics developed on the basis of the concept of multimodal education that can combine the rational and emotional aspects of learning. The heuristic potential of multimodal learning combines the possibilities of rational discourse and critical reflection. She concludes that transformative learning can be effective only if multimodal education that combines rational and critical approaches (Horbunova, 2015).

In the narrow sense, the concept of multimodality refers to the distinction between human senses, primarily the visual and auditory channels. However, within each of these channels there are further, smaller differences that are also covered by the concept of multimodality (Hudz, 2014). Hudz (2014) believes that a very important mission of a teacher of a non-linguistic educational institution is to teach students to communicate using not only words, but also other non-verbal means, such as gestures, intonation, head movements, facial expressions, etc.; to facilitate the perception of any written information by schematization or simplification. The scholar notes that nowadays the applicant for education is perceived as a subject of learning, participating in the process of creative acquiring skills and abilities, and not an object of learning, that is, a person who only perceives and accumulates knowledge. This requires an appropriate approach to the learning process (Hudz, 2014).

In a broad sense, multimodality is a theory of communication and social semiotics, a science that explores the ways of transmitting information, the properties of signs and sign systems in society. It describes communicative practices in terms of textual, sound, language, spatial and visual resources or ways that are used to create messages, veiled information, appeals, warnings, signals, etc. Into the context of learning, the concept of multimodality is manifested in different forms of synthetic learning, including images, sounds, and sensations. In this connection, image-based learning, games, mimetic learning, can be considered the basic form of multimodal cultural and transcultural learning (Horbunova, 2015).

The 21st century is filled with mixed images, writing, layouts, sounds, gestures, language and 3D objects, etc. Multimodality goes beyond language and explores these ways of communicating and meaning-making. Kress (2009) develops a modern approach to communication, which unites all methods of understanding the content under an umbrella term of multimodality. Modus by Kress is a channel of communication, a way of transmitting information from one interlocutor to another.

Bezemer and Kress (2015) maintain that education should be adapted to meet the possibilities of lifelong learning in the overall process of social development. Accordingly, it should teach others to think nonlinear, going beyond schemes, rules, paradigms, norms in new and complex environments. It should cultivate the ability not only to analyse, but also to synthesize and construct new knowledge and meanings in accordance with changes, to move to new and complex environments (Hardy, 2018).

Kushnir (2017) emphasizes that the teacher should create a rich, diverse, multimodal (addressed to many sensory channels), interesting environment that is focused on communication (interaction). On the one hand, this environment should be based on the experience that the student already has. On the other hand, it should contain riddles and potential discoveries. The environment should encourage search, research, self-orientation, identification of problems and their solutions. The idea of the learning environment is the antithesis of the teacher's leading role, who is the organizer of the activity and environment in which cognition takes place.

In this regard, it is important to mention that lectures are one of the types of classes at the Institute of In-Service Training of Borys Grinchenko Kyiv Metropolitan University. They are based on the idea of subject-subject cooperation. Thus, an emphasis was placed on the importance of stimulating the active cognitive activity of students. According to the method of presenting educational material, teachers of the Department of Pre-School and Elementary Education conduct such types of lectures as problem lectures, visualization lectures, binary lectures, discussions, lectures with pre-planned errors, press conferences, consultations, tutoring, lectures with analysis of specific situations; lectures using feedback techniques (using distance learning technology) (Krykun, 2013; Melenets, 2016).

RESULTS AND DISCUSSION

Summarizing the different directions of development and methods of the educational process through the prism of opportunities for their application at in-service trainings for teachers of preschool education institutions, the multimodality of learning as a socio-cultural phenomenon is highlighted. During the training sessions, teachers often used various media of different types (auditory, visual, tactile-kinesthetic). Therefore, the research questions are as follows:

- How are these media used by the teacher?
- How are they perceived and interpreted by attendees?

In order to answer these research questions, the natural sequence of structural components of classes was analysed. Then, the survey of teachers and attendees was conducted. They were interviewed individually about their understanding and perception of the multimodal approach to learning activities. This survey permitted to explore how different teachers and attendees perceive the same phenomenon and discover differences in teaching methods and techniques.

The study of the multimodal approach to organizing the training of teachers of preschool education institutions lasted from the second half of 2018 to the end of 2019 and consisted of two parts. The first part is a descriptive study, which was conducted in the classrooms of the Institute of In-Service Training of Borys Grinchenko Kyiv Metropolitan University with participation of 35 attendees. The purpose of this part was to observe the multimodal behaviour of the teacher and the reaction of the attendees to this behaviour. The second part consisted of the experiment, which was carried out in small groups of up to 15 people on the basis of educational institutions in Kyiv such as LLC Montessori School of the New Era, Private Institution of Education Kudryavsky, and Pre-School Educational Institution No. 155. It was based on certain observations from the first part and aimed to analyse them in a controlled

environment. 61 teachers of pre-school education institutions in Kyiv participated in the experiment. Table 1 presents their positions and their working experience as of 2018-2019.

Table 1. Positions and working experience of the surveyed teachers of pre-school education institutions in Kyiv as of 2018-2019

Working experience		Positions	
		Teacher of early age groups	8
Up to 10 years	15	Teacher of preschool-age groups	27
Up to 20 years	19	Physical training instructor	6
Up to 30 years	14	Music director	6
More than 30 years	13	Psychologist	4
		Teacher-methodologist	6
		Teacher-speech therapist	4

Source: developed by the author

Teachers were offered to encode the verbal element of the training session - the theme plan and the course of its implementation using various modalities. Figure 1 displays the theme of the lecture “Activation of the cognitive activity of pre-schoolers” of the training module “Techniques for activating and developing the cognitive activity of preschool children: mathematics, natural science, language”. Figure 2 shows the theme of the lecture “Creating a developmental environment for children with special educational needs in the pre-school educational institutions” of the educational module “Inclusion of children with special educational needs in preschool education institutions”.

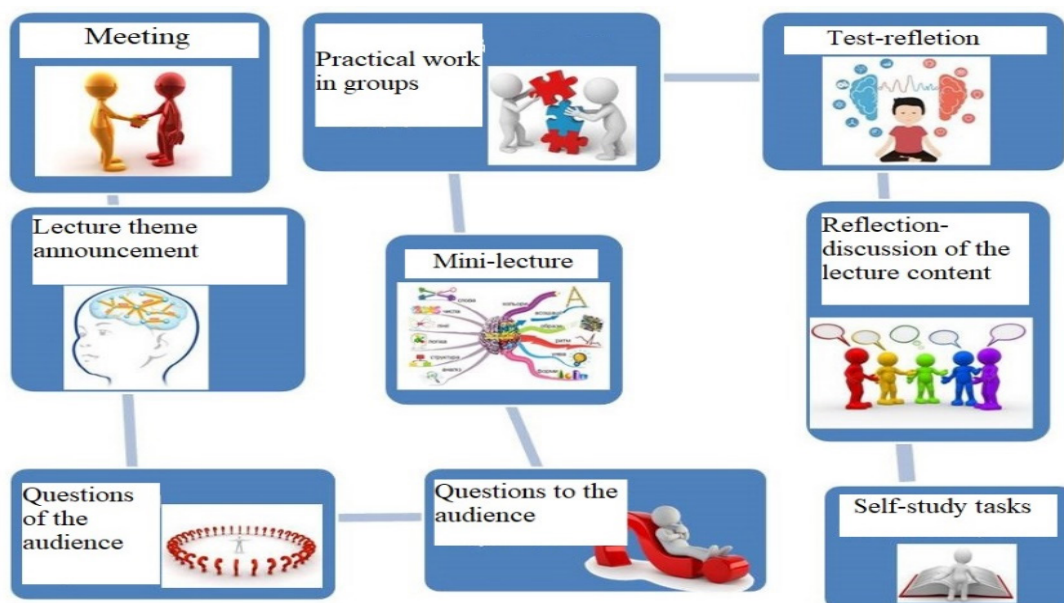


Figure 1. Activation of the cognitive activity of pre-schoolers



Figure 2. Creating a developmental environment for children with special educational needs in the pre-school educational institutions

After the lecture, the teachers and the attendees gave answers voluntarily to the following questions:

1. Indicate your attitude to the use of graphical learning tools used during the study of the module theme: - learning tools were productive and interesting
 - learning tools were incomprehensible, ill-conceived and uninteresting
 - I prefer verbal/text message/lesson plan

2 Evaluate the level of collective and mutual learning while mastering the module topic. Underline the correct answer. - high, - medium, - low

3. Did they leave a richer mark when memorizing the material coded verbal elements of the training session? Underline the correct answer.
 - Yes, - No, - Difficult to say

4. Where did you adapt faster to the learning process?

- in your usual educational environment
- in the IIST classrooms
- no matter, I adapt the environment to myself

5. What method of cognition did you try to avoid during the training session? Underline the correct answer.

- imagination (inventing ideas), - reflection (studying fictional ideas), - solution (way of implementing a particular idea), - action (doing something to implement your idea), - experience (studying from different angles, with other people through failures, or attempts).

The analysis of the survey results made it possible to confirm or reject the following hypothesis: an increase in the concentration of attention and activity of attendees during training sessions on graphic materials and methods of learning and a decrease in visually noticeable fatigue result in the use of multimodal approaches to training in the postgraduate

education system. The survey results are presented as follows.

1. Indicate your attitude to the use of graphical learning tools used during the study of the module theme:

- learning tools were productive and interesting - 42 persons
- learning tools were incomprehensible, ill-conceived and uninteresting – 1 person
- I prefer verbal/text message/lesson plan – 18 persons

2 Evaluate the level of collective and mutual learning while mastering the module topic. Underline the correct answer:

- high -16 persons, - medium – 37 persons, - low – 8 persons

3. Did they leave a richer mark when memorizing the material coded verbal elements of the training session? Underline the correct answer:

- Yes – 34 persons, - No – 1 person, - Difficult to say – 26 persons

4. Where did you adapt faster to the learning process?

- in your usual educational environment – 37 persons
- in the IIST classrooms – 9 persons
- no matter, I adapt the environment to myself – 15 persons

5. What method of cognition did you try to avoid during the training session? Underline the correct answer:

- imagination (inventing ideas) – 17 persons, - reflection (studying fictional ideas) – 20 persons, - solution (way of implementing a particular idea) – 23 persons, - action (doing something to implement your idea) – 2 persons, - experience (studying from different angles, with other people through failures, or attempts) – 3 persons.

Those teachers who did not express a desire to answer questions noted the following. The most difficult thing was to answer the last question; infographics were was interesting, but not easy. They received emotional satisfaction from the unconventional presentation of the material and received useful information. They gained experience that will be applied in working with children when conducting organized forms of activity. The attendees learned about the rapid spread of iconic information. Classes showed that learning in small groups contributes not only to learning, but also to self-learning.

In addition, they found a form of appeal to parents at the expense of signs and symbols. The teacher spends a lot of time preparing the material for the lesson and it's nice. The attendees were impressed that the teacher naturally involved them in the work in the group, although they did not show a special desire to work with strangers. They were worried what others would say when hearing their unconventional opinion. They gained knowledge, heard other people's thoughts and realized that it was necessary in this world to be more flexible, although there is already a lot of experience. They also realized that having sufficient experience, it was still interesting to study. Finally, the attendees felt like a child in class, impressed by the possibility of selecting actions, means, and techniques.

Thus, it is established that teachers of preschool education institutions mainly consider it positive to create such a learning environment that emphasizes its diversity, multimodality, interesting and communication-oriented. It is based on the experience that the student already has and contains potential discoveries. The environment that encourages search, research, self-orientation, identification of problems and their solutions (in groups or

independently) causes some difficulties for a small number of listeners. Therefore, the problem of personal knowledge acquisition requires additional research. It turned out to be interesting that teachers of preschool education institutions pay great attention to their emotional state, understand how important it is not only in ordinary everyday life, or at work, but also in learning. The presentation of information in an accessible form, with images, signs, gestures, messages demonstrate the application of the multimodal approach, occupying a decisive role in the educational field of the 21st century. Thus, the study of the multimodal approach to training of teachers of preschool education institutions outlines the prospects for the development of education with a multimodal approach as a means of improving the skills of employees of educational institutions. Given the rapid development of information and communication technologies in education, multimodality should become the natural component of human communication during adult learning. Accordingly, there is a need to change the matrix/technology of teaching in the in-service trainings by taking the educational component beyond the traditional roles of the teacher and the student, giving all participants the opportunity to include interaction in the communicative situation. Although this research attempted to shed light on multimodality in pre-school education, there are several limitations, that in turn, stipulate further research. Thus, the research is limited to the survey of teachers of pre-school education institutions in Kyiv. Therefore, it is necessary to expand the geographical aspect of the study. Moreover, it is advisable to analyse pre-school education institutions of different forms of ownership. Finally, it is possible to involve a larger number of teachers in participating in the study.

CONCLUSIONS

This research was a contribution to the study of ensuring the quality of professional activities of teachers of pre-school education institutions of the city of Kyiv in the system of continuous pedagogical education. It expands on previous studies concerning multimodal approach in adult learning. This research was focused on the analysis of the multimodal language of distance learning. It outlined the possibilities of using different ways of knowing using novel methods of learning. Changing the standards of education provided for updating the nature of the educational process, by filling it with personal content. Therefore, the educational process should be built on the development of one's thinking, a culture of mental labour, activity and cognitive independence, creative abilities. It should contribute to the full self-realization of the personality of a pre-school education specialist and his/her professional growth. So, the main conceptual task of modern adult education is to realize the need for the formation of culture, which is not a knowledgeable component, and in the understanding that knowledge is clearly not enough. In contrast, it requires special skills, in particular, the ability to be flexible in learning, improving work efficiency, and refocusing on the needs of students. The study of education and communication is vital for effective, integrated approach to training of students, students, and other adults. It will be interesting for PhD students and teachers of higher education, masters of specialties related to media communication and information, education. Thus, it is expedient to further explore the possibilities of teachers of preschool education institutions who work with children with special educational needs and are required to be flexible, apply various tools and approaches to lifelong learning.

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