



“3k-Transfer” Development Methodology For Forming The Educational And Social Activity Of Primary School Students With Intellectual Disabilities

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ABSTRACT

The article presents the “3K-Transfer” developmental methodology aimed at developing educational and social activity among primary school students with intellectual disabilities. The methodology integrates cognitive learning, communication, and collaboration within a single educational and practical action, followed by the transfer of acquired skills from familiar situations to modified, new, and natural social contexts. The article outlines the purpose, objectives, key mechanisms, and functional modules of the methodology, focusing on developing students’ independent decision-making, expression of needs, interaction with peers, and practical application of acquired skills. Particular attention is given to the differentiation of pedagogical support through the gradual reduction of prompts and transition toward independent action. The proposed approach is designed to transform acquired knowledge into functional social behavior and expand children’s independence in everyday situations.

Keywords: Intellectual disabilities, primary school students, educational and social activity, developmental methodology, “3K-Transfer”, cognitive learning, communication, collaboration, skill transfer, pedagogical support, independence, inclusive education.

INTRODUCTION

A developmental methodology for primary school students with intellectual disabilities should not be limited to a collection of new exercises. It should activate the child’s existing knowledge, help them understand a situation, encourage decision-making, engage them in communication, enable them to coordinate their actions with peers, and facilitate the transfer of acquired skills to new contexts.

From this perspective, we developed the “3K-Transfer” developmental methodology. Its name reflects the internal logic of the methodology: cognitive learning, communication, and collaboration (3K) are integrated within a single task, after which the acquired action is transferred from a familiar context to a modified, new, and naturally occurring social situation. The purpose of the methodology is to move the learner beyond simply reproducing a ready-made answer toward understanding a situation, making an independent decision within their capabilities, and engaging in socially appropriate action.

In developing the methodology, several approaches whose effectiveness has been studied in international special education were analyzed. In particular, the methods of systematic

instruction, task analysis, pictorial task analysis, graphic organizers, prompting, and feedback reflected in the works of D. Browder, F. Spooner, and co-authors; the prompting-fading mechanisms analyzed by M. Demchak; the ideas of self-instruction and generalization presented in the works of K. A. Smith, S. B. Shepley, J. L. Alexander, and K. M. Ayres; as well as the peer-mediated intervention approach examined by L. Bowman-Perrott, C. Gilson, and co-authors provided the theoretical and practical foundation for the methodological framework. These approaches were not adopted in their original form; rather, they were adapted to the age of primary school students with intellectual disabilities, their mild to moderate intellectual functioning, and the learning and social difficulties identified in our study.

Therefore, the authorship and originality of the methodology are manifested not in the mechanical integration of foreign technologies, but in bringing them together within a unified mechanism that combines 3K integration, social transfer, and the gradual reduction of pedagogical support. In this process, each developmental task addresses three questions: What should the learner understand and choose? How can the learner express their decision or need? How can the learner coordinate this action with another person?

The purpose of the methodology is to develop the ability of primary school students with intellectual disabilities to consciously apply the knowledge and skills acquired during the learning process in practical and social situations, express their thoughts and needs, act collaboratively with others, and demonstrate independence under conditions of reduced pedagogical support.

Based on this purpose, five interrelated objectives were identified within the methodology: 1) to activate the learner's existing knowledge and practical experience; 2) to connect cognitive choice with communicative expression; 3) to develop individual action into collaborative activity in pairs and small groups; 4) to transfer acquired skills to modified and new situations; 5) to gradually reduce pedagogical support and increase the learner's functional independence. Within the methodology, the outcome is not limited to the one-dimensional indicator of whether the learner "completed the task correctly." In our view, genuine development is determined by the amount of support required for the learner to complete a task, their ability to express their own decision, their capacity to coordinate actions with another participant, and their ability to apply the learned strategy in a new situation.

Table 1.
Core Mechanisms of the "3K-Transfer" Methodology

Mechanism	Internal Process	Methodological Outcome
3K Integration	Cognitive learning → communication → collaboration	Transformation of knowledge into social action
Transfer	Familiar → modified → new → natural situation	Prevention of skill dependence on a single context
Increasing Independence	Extensive support → partial support → minimal support → independent action	Reduction of dependence on the teacher

The first mechanism is 3K integration. At the cognitive stage, the learner understands the situation, identifies relevant features, makes comparisons, and reaches a decision. At the communicative stage, the learner expresses their decision, need, or question through verbal or alternative means of communication. At the collaborative stage, the learner coordinates their

actions with those of another participant. In this way, “knowing” begins to function within social interaction.

The second mechanism is transfer. A student with an intellectual disability may successfully complete a task using a familiar card or following the same instruction; however, this does not necessarily indicate that the skill has been generalized. Therefore, within each module, the task is first performed in a familiar context, then in a situation in which certain features have been modified, followed by a context involving a new setting, new materials, or a new partner, and finally under conditions that approximate a natural social situation. Research on self-instruction and generalization also demonstrates the need to deliberately organize opportunities for learners to acquire multi-step tasks independently in new contexts.[1]

The third mechanism is the gradual reduction of pedagogical support. The purpose of support is not to perform the task on behalf of the child, but to guide the learner toward the correct response and subsequently withdraw the support. The literature on prompting and fading likewise emphasizes the importance of systematically reducing artificial assistance in order to help learners respond to natural cues. We adapted this mechanism through a sequence of visual modeling, brief instructions, guiding questions, partial prompts, and independent action.[2]

It is not necessary to mechanically repeat all seven stages in full during every lesson. With first-grade students or learners with moderate intellectual disabilities, the initial three or four stages may be reinforced over several sessions. In Grades 3–4 and with learners with mild intellectual disabilities, the opportunity to integrate choice, communication, collaboration, and transfer within a single lesson becomes greater. The essential requirement of the methodology is therefore not the number of stages, but the learner’s progression from their initial level of performance toward a more independent form of action.

Table 2.

Foreign Approaches and Their Adapted Functions in the “3K-Transfer” Methodology

Foreign Approach	Researchers	Adapted Element in Our Methodology
Systematic instruction, task analysis, time delay	F. Spooner, V. Knight, D. Browder, B. Smith	Breaking the task into small steps; defining clear objectives; systematic prompting and feedback
Modified schema-based instruction	D. Browder, F. Spooner, Y. Lo, A. Saunders, J. Root et al.	Pictorial algorithms, graphic supports, problem-based practical situations, and generalization
Prompting and fading	M. Demchak	Gradual transition from extensive support to minimal support and independent action
Generalized self-instruction	K. Smith, S. Shepley, J. Alexander, K. Ayres	Self-instruction, independent use of visual algorithms, and transfer to new tasks
Peer-mediated intervention	L. Bowman-Perrott, C. Gilson, R. Boon, K. Ingles	Activating communication and collaboration through peers in natural situations
Social skills intervention	U. Jacob, I. Edozie, J. Pillay	Situational communication, role-play, and practice of social behavior

The foundations presented in this table indicate the scientific sources underlying the methodology; however, the “3K-Transfer” methodology is not a reproduction of these

approaches. For example, Browder and co-authors used pictorial task analysis, graphic organizers, systematic prompting, and feedback as an integrated package to teach students with moderate intellectual disabilities to solve mathematical word problems, while also assessing generalization. We used this framework to connect academic content with social situations: the pictorial algorithm is applied not only to problem-solving but also to tasks related to hygiene, dressing, eating, transportation, shopping, and collaboration at school.[1]

Contemporary reviews of peer-mediated interventions demonstrate the potential of this approach for enhancing peer participation and social initiation among students with intellectual and developmental disabilities. Based on this principle, we organize collaboration not simply as “sitting together,” but through tasks in which roles are interdependent, so that one participant cannot achieve the complete outcome without the actions of the other.[2]

In differentiating the methodology according to the degree of intellectual disability, its ultimate goal remains unchanged. Both learners with mild and moderate intellectual disabilities are guided toward understanding a situation, making a choice, expressing their thoughts or needs, collaborating with others, and applying acquired skills in practical situations. The difference is manifested in the amount, form, and duration of support provided by the teacher during the process of achieving these outcomes. For learners with mild intellectual disabilities, opportunities for independent choice and action are expanded earlier, whereas for learners with moderate intellectual disabilities, visual supports, brief instructions, action models, and guiding assistance are maintained for a longer period. Thus, differentiation within the “3K-Transfer” methodology can be understood not as “giving a difficult task to one learner and an easy task to another,” but as achieving the same functional outcome through different levels of pedagogical support.

The amount of pedagogical support is regulated according to the learner’s performance during the task. Initially, when necessary, an action model, visual algorithm, or joint performance is used. As the skill develops, the full model is replaced by a partial prompt, followed by a guiding question or brief reminder, and ultimately the learner is guided toward independent action. When the learner begins to perform the task consistently, pedagogical support is reduced; if difficulties emerge in a new or modified situation, the necessary support is temporarily reintroduced. In this way, pedagogical support is not used as a permanent means of assistance, but as a temporary methodological tool for guiding the learner toward independent action.

Time delay—a method of “delaying assistance for a specified period”—and systematic prompting—a method of “providing systematic pedagogical support”—are among the widely used approaches in special education. In the review by Spooner, Knight, Browder, and Smith, time-delay procedures and task analysis-based instructional approaches are identified as evidence-based practices for learners with significant disabilities. On this basis, we also consider providing response time to be part of the process of reducing support: after asking a question, the teacher does not immediately provide the answer but allows the learner a brief period to respond independently.

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