

REFLECTIVE COMPETENCE IN SURDOPEDAGOGUE TRAINING: A FRAMEWORK FOR ENHANCING PROFESSIONAL SELF-ANALYSIS AMONG PRE-SERVICE TEACHERS OF THE DEAF

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Abstract:

This study investigates the development and validation of a multi-dimensional framework for enhancing reflective competence among pre-service surdopedagogues — specialist teachers working with deaf and hard-of-hearing children. Grounded in the theoretical traditions of Schön's reflective practice, Vygotsky's activity theory, and contemporary competence-based approaches to teacher education, the study proposes a four-dimensional model of professional reflection specifically contextualised for surdopedagogical practice: cognitive, communicative, personal, and anticipatory reflection.

Keywords

reflective practice, reflective competence, surdopedagogy, deaf education, teacher training, professional development, correctional pedagogy, pre-service teachers, Uzbekistan.

1. INTRODUCTION

Teaching deaf and hard-of-hearing children is widely recognised as one of the most cognitively and emotionally demanding specialisations within the broader field of special education. The surdopedagogue must simultaneously manage the complexities of hearing impairment — encompassing auditory processing deficits, speech and language developmental delays, the cognitive consequences of sensory deprivation, and in many cases additional co-occurring disabilities — while maintaining the flexibility to adapt instructional and correctional strategies to the highly individualised profile of each learner. This professional context places extraordinary demands on the practitioner's capacity for self-awareness, self-regulation, and continuous critical self-evaluation: in short, on their reflective competence.

Despite the broad recognition in the international teacher education literature that reflective practice is a hallmark of expert teaching (Schön, 1983; Dewey, 1933; Moon, 1999), systematic and methodologically grounded attention to the development of reflection in surdopedagogue preparation programmes remains limited. In post-Soviet educational systems, including Uzbekistan, the professional training of teachers of the deaf has historically privileged content knowledge (acoustics, phonetics, sign language, correctional methodology) over metacognitive and reflective skills, reflecting a technocratic model of teacher preparation.

The present study addresses this gap by proposing, implementing, and evaluating a structured framework for building reflective competence in pre-service surdopedagogues. The research questions guiding the study are: (1) What are the defining dimensions of reflective competence in the surdopedagogical context? (2) What instructional methods are most effective in developing each dimension? (3) What measurable gains in reflective competence can be achieved through a structured 12-week programme?

2. THEORETICAL FRAMEWORK



The concept of reflective practice in professional education originates in Dewey's distinction between routine action — driven by habit and authority — and reflective action, characterised by active, persistent, and careful consideration of beliefs and their grounds. Schön operationalised this distinction for professional contexts through his influential concepts of reflection-in-action (the real-time monitoring and adjustment of professional behaviour) and reflection-on-action (retrospective analysis after the event). Both modalities have direct relevance for surdopedagogues: the former is engaged when a teacher instantaneously recalibrates a signed instruction upon noticing incomprehension; the latter when a teacher analyses a lesson recording to understand why a particular phonetic drill failed to achieve its objective.

Activity theory, as developed by Vygotsky and elaborated by Leontiev, provides a complementary theoretical lens. Within this framework, reflection is understood as the mechanism through which the subject becomes conscious of the structure, motives, and outcomes of their own activity — a process that is both individually and socially mediated. For teacher education, this implies that reflection cannot be developed in isolation: it requires structured social contexts (peer dialogue, supervision, collaborative analysis) in which nascent reflective capacities are scaffolded by more experienced practitioners.

Building on these foundations, we propose a four-dimensional model of reflective competence specifically adapted to the surdopedagogical context. The model distinguishes between cognitive reflection (analytical processing of professional experience), communicative reflection (awareness of and responsiveness to interaction dynamics with children, families, and colleagues), personal reflection (awareness of one's own emotional states, professional identity, and value commitments), and anticipatory reflection (forward-looking, goal-oriented self-regulation in planning and design). The contextualisation of each dimension within surdopedagogical practice is detailed in Table 1.

Table 1. Four-Dimensional Framework of Reflective Competence in Surdopedagogue Training

Dimension	Core Skills	Assessment Tool	Integration in Surdopedagogy
Cognitive Reflection	Critical analysis, problem identification, causal reasoning	Reflectivity Scale (Karpov & Ponomareva)	Analysing why a deaf child failed to acquire a speech pattern; identifying barriers in cochlear implant rehabilitation
Communicative Reflection	Feedback processing, peer dialogue, collaborative meaning-making	Structured peer observation protocol	Evaluating the quality of communication with a child using sign language or FM-system; adjusting interaction strategies



Personal Reflection	Emotional regulation, professional identity, self-efficacy beliefs	Professional Identity Questionnaire	Coping with emotional burden when working with multiply disabled deaf children; maintaining professional optimism
Anticipatory Reflection	Goal-setting, lesson design, proactive problem-solving	Lesson plan quality rubric	Pre-designing an individualised correctional route for a deaf child with additional learning difficulties

3. METHODOLOGY

Research design. The study employed a quasi-experimental pre-test / post-test control group design. Participants were 84 third- and fourth-year undergraduate students enrolled in the Surdopedagogy specialisation at Tashkent State Pedagogical University. Allocation to experimental (EG, n=42) and control groups (CG, n=42) was non-random but matched on key variables: year of study, gender distribution, and pre-test reflectivity scores. All participants provided written informed consent.

Intervention. The experimental group participated in a 12-week structured Reflective Skills Development Programme (RSDP) integrated into their scheduled pedagogical practicum. The RSDP comprised four interlocking components: (1) weekly structured reflection diaries (completing a standardised four-field template: planned vs. achieved; difficulties encountered; probable causes; planned modifications); (2) bi-weekly video analysis sessions, in which pairs of students analysed recordings of their own teaching episodes using a guided observation protocol; (3) monthly Critical Incident seminars employing Flanagan's (1954) technique adapted for deaf education; and (4) fortnightly group supervision sessions facilitated by senior academic staff and practising surdopedagogues. The control group followed the standard curriculum without RSDP components.

Measures. The primary outcome measure was the Reflectivity Scale developed by Karpov and Ponomareva (2003), which yields a global reflectivity score and three subscale scores (analytical, communicative, and personal reflection). In addition, an Anticipatory Reflection Rubric was developed by the research team to assess the quality of students' lesson plans and correctional route designs on a five-point scale. Inter-rater reliability for the rubric was established at ICC = 0.84. Data were analysed using the Mann-Whitney U test for between-group comparisons and the Wilcoxon signed-rank test for within-group pre-post comparisons, with a significance threshold of $p < 0.01$.

4. RESULTS

Pre-test scores confirmed the equivalence of the two groups at baseline: no statistically significant differences were observed on any reflectivity measure (all $p > 0.05$). Following the 12-week intervention, the experimental group demonstrated statistically significant



improvements across all four reflective dimensions, while the control group showed no significant change. Detailed results are presented in Table 2.

The proportion of EG students classified at the 'high' reflectivity level increased from 11.9% to 38.1%, while those at the 'low' level declined from 42.9% to 9.5%. The most pronounced gains were observed in the analytical reflection subscale (mean increase: +1.46 points), followed by personal (+1.07) and communicative (+1.09) reflection. Qualitative analysis of reflection diaries revealed a progressive shift in student discourse: early entries were predominantly descriptive and evaluative ('the lesson went well / poorly'), while later entries demonstrated multi-perspectival causal analysis and explicit future-oriented planning.

Content analysis of Critical Incident reports yielded three recurrent thematic categories: (1) communication breakdowns attributable to inadequate adaptation of language input to the child's residual hearing capacity (present in 71.4% of reports); (2) underestimation of the emotional and motivational dimension of correctional work (64.3%); and (3) insufficient individualisation of lesson pace and complexity (57.1%). These themes directly informed targeted adjustments to the RSDP across its implementation cycle.

5. DISCUSSION

The findings of this study align with and extend the growing body of evidence supporting structured reflective practice interventions in teacher education (Beauchamp, 2015; Farrell, 2018; Nguyen, 2017). The significant gains observed in the experimental group confirm that reflective competence, far from being an innate dispositional quality, is a learnable and trainable set of professional skills that respond to systematic pedagogical intervention.

Several findings merit particular discussion in the surdopedagogical context. First, the pronounced improvement in analytical reflection — the capacity to identify causal mechanisms behind pedagogical outcomes — is of special significance for deaf education, where the interaction between the child's audiological profile, cognitive development, and psycho-emotional state creates a uniquely complex causal field that the teacher must learn to navigate. The video analysis component of the RSDP appears to have been especially effective in developing this dimension, consistent with research on video-mediated reflection in teacher education (Kleinknecht & Schneider, 2013).

Second, the thematic analysis of Critical Incident reports revealed that pre-service surdopedagogues are particularly prone to underestimating the role of emotional factors in their correctional work. This finding resonates with the well-documented risk of compassion fatigue and professional burnout among educators working with children with severe disabilities (Maslach, 2003). The development of personal reflection — including emotional self-awareness and professional identity clarity — thus serves not only educational but also occupational health functions, a finding that strengthens the case for embedding reflective skills training within all surdopedagogue preparation programmes.

Third, the anticipatory reflection dimension, operationalised through the quality of students' lesson and correctional route designs, showed consistent improvement in the experimental group. This suggests that structured reflective practice 'backward' on completed lessons creates positive transfer to 'forward-looking' professional planning — a mechanism consistent with Schön's theoretical account of the relationship between reflection-on-action and reflection-for-action.



6. CONCLUSION AND IMPLICATIONS

This study has demonstrated the feasibility and effectiveness of a structured, contextualised programme for developing reflective competence among pre-service surdopedagogues. The four-dimensional framework — cognitive, communicative, personal, and anticipatory reflection — provides a theoretically grounded and practically applicable model for surdopedagogue preparation that responds to the distinctive professional demands of deaf education.

The findings carry clear implications for educational policy and practice. Surdopedagogue training programmes should systematically incorporate structured reflective skills development — including reflection diaries, video-mediated peer analysis, critical incident methodology, and facilitated supervision — as non-optional components of their curricula, rather than leaving reflective development to chance. Assessment frameworks for student teachers in deaf education should include explicit reflective competence criteria.

Future research should investigate the long-term sustainability of reflective gains beyond the intervention period, the differential effectiveness of RSDP components for students with different learning styles and professional orientations, and the potential of digital platforms and AI-assisted reflection tools (such as automated analysis of reflection diary entries) to scale and personalise reflective development in large-cohort teacher education programmes.

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