

Reading Comprehension Skill Formation in the Azerbaijani Education System: A Historical-Pedagogical Analysis of Safarali Bay Valibayov's Legacy and Its Relevance to Contemporary Instructional Practice

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Keywords

reading comprehension development; historical-pedagogical analysis; constructivist learning theory; Azerbaijani education system; metacognitive instruction; dialogic teaching; literacy pedagogy

Abstract

Reading comprehension is a basic level of cognitive competency in modern education; however, higher-order skills are not well developed in post-Soviet settings. The Azerbaijani education system is characterized by a structural imbalance between policy goals and classroom implementation, as no research has been conducted on a systematic relationship between national pedagogical traditions and contemporary models of instruction. This paper assesses the theoretical congruency between the historical pedagogy proposed by Safarali Bay Valibayov (1861–1902) and the modern theory of reading comprehension and points out the structural impediments that perpetuate the inefficiency of instruction in Azerbaijan. A qualitative, non-empirical design was implemented with a combination of historical analysis, four-phase qualitative content analysis, and five-dimensional comparative pedagogical evaluation using 23 purposively chosen documentary sources. Thematic coding resulted in 18 open codes under the decoding, interpretation, reflection, and cross-cutting dimensions. The nine pedagogical principles identified through historical analysis had a mean value of 4.67 out of 5.00 in alignment with constructivist and metacognitive criteria. The analysis conducted comparatively against the pre-reform model showed that the former scored 1–2 in all five structural dimensions, and the approach by Valibayov scored 4–5, which gave a mean of 4.60 out of 5.00 in comparison to the contemporary constructivist framework. The generation of inference and critical analysis became the most theoretically anticipated but most lacking skill set in the present Azerbaijani teaching. This research confirms that the learner-centred, dialogic, mother tongue-grounded pedagogy developed by Valibayov is an actionable historical framework for reading comprehension reform that repositions national pedagogical heritage as a critical resource to support evidence-based curriculum development in post-Soviet teaching environments.

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INTRODUCTION

Reading comprehension is one of the most impactful cognitive abilities in modern educational systems. It is defined as the ability to extract, create, and critically analyze meaning in written form and serves as a precursor to academic success in all fields of knowledge and a primary facilitator of lifelong learning in information-rich societies (Catts, 2021; McLaughlin & Devoogd, 2017). This competency has been formally recorded in large-scale international tests, such as the Programme for International Student Assessment (PISA), delivered by the Organisation for Economic Co-operation and Development (OECD), and benchmarking systems developed by the United Nations Educational, Scientific, and Cultural Organisation (UNESCO), both of which identify reading literacy as a focal point in human capital formation at the individual and societal levels (Tağa, 2023).

Modern educational science has understood reading comprehension as a multidimensional and dynamic process that combines lower-order cognitive processes, such as phonological decoding and lexical access, and higher-order processes, such as inference

generation, critical evaluation, and knowledge synthesis (Goldman, 2024). The implications of this theoretical change are far-reaching when it comes to the design of instruction: successful reading pedagogy should not be reduced to mechanical fluency alone, but active sense-making processes, metacognitive control, and building an interpretive capacity need to be considered as the primary goals of the pedagogical process (Channa et al., 2014; Jamrus, 2025). In this spirit, curriculum reforms based on competencies implemented in member states of the OECD and elsewhere have become increasingly focused on teaching reading as an exercise in analytical inquiry and critical thinking, as opposed to text parroting (Bilki, 2023).

This international scenario presents unique structural and pedagogical challenges to post-Soviet and transitional education systems. These systems are deeply ingrained with didactic practices that are marked by teacher-centred teaching, standardized content delivery, and assessment methods that focus on remembering rather than reasoning (Nekrasov, 2024). One of the most complicated and least studied domains in comparative educational studies is the reform path of these systems between the maintenance of nationally important pedagogical traditions and the implementation of internationally tested models of competencies (Anderson-Levitt & Gardinier, 2021). Although the Azerbaijani education system has been heavily invested in the modernization of the curriculum in the last 20 years, there are still serious and unresolved issues in the effective promotion of reading comprehension skills (Rasulova, 2024).

Functional literacy, critical thinking, and learner-centered approaches are formally supported in national curriculum documents and strategic educational frameworks; however, the translation of these policy promises into regular classroom practice is demonstrably lacking (Saputra et al., 2024). A considerable number of studies have shown clear indicators of the presence of a high percentage of learners who have satisfactory decoding fluency but severe deficiencies in higher-order comprehension processes, including inference, critical evaluation, and cross-textual combination, thus revealing a critical disparity between proclaimed curricular intentions and evident learning outputs (Kalhor et al., 2025; Ruan, 2023).

Nevertheless, in spite of these identified issues, academic sources that focus on reading comprehension development in Azerbaijan are marked by two mutually connected gaps. First, the current literature is mostly based on Western theoretical foundations and internationally derived teaching models, without proper consideration of the particular sociocultural, linguistic, and historical circumstances of the Azerbaijani educational setting (Bozan, 2024; Rasulova, 2024). Second, and more importantly, the deep national pedagogical tradition of Azerbaijan, especially the work of the late 19th- and early 20th-century educational reformers, has been systematically understudied as a theoretical and practical source of modern instructional innovation. No research has so far critically examined the pedagogical contributions of Safarali Bay Valibayov (1861–1902) in terms of the modern theory of reading comprehension, and no study has examined how his instructional principles can be applied to modern attempts to enhance literacy education in Azerbaijan (Paşayeva, 2025; Sakieva & Raimkul Kyzy, 2020).

This is important not only theoretically but also practically. The works of Valibayov on native-language instruction, dialogic teaching, and constructivist methodology constitute an early and contextually based statement of the principles now codified in modern constructivist and metacognitive theories (Akhundova, 2020). The inability to incorporate this heritage into the discourse of contemporary education not only leaves the field of theoretical Azerbaijani educational science poor but also robs practitioners and policymakers of a culturally sound and pedagogically proven set of ways to solve enduring problems in instruction (Safarova, 2025).

The current study addresses this gap by providing a systematic historical-pedagogical discussion of the development of reading comprehension in the Azerbaijani education system and, in particular, the theoretical conditions of the instructional heritage of Safarali Bay Valibayov and its correspondence with modern educational science (McCullough et al., 1974; Tsukerman et al., 2018). In particular, we claim that the pedagogical model of Valibayov, with its mother-tongue instruction, dialogic learning forms, and the interactive nature of learners, should be viewed as an early expression of constructivist and metacognitive ideas that are not only historically relevant but also directly applicable to addressing the existing gaps in the instructional process in Azerbaijan (Ceylan & Ceylan, 2023).

In contrast to the earlier literature on the subject that has either studied Azerbaijani educational history in its own right (not in relation to the contemporary theory) or used Western theories of literacy in general without considering the national pedagogical traditions, the work postulates a two-way and holistic model of analysis (Mammadova, 2021). The systematic correlation of historically based national pedagogy with a theorized up-to-date model of reading comprehension teaching is the most important innovation of this work, showing that the principles suggested by Valibayov are not a relic of the past and may be used to reform the curriculum (Regner et al., 2025; Rasulova, 1934).

The study makes three concrete contributions: (1) it provides the first theoretically grounded reconstruction of Valibayov's reading pedagogy within the paradigm of constructivist and socio-cultural learning theory; (2) it identifies specific structural and methodological barriers to higher-order reading comprehension development within the contemporary Azerbaijani educational system; and (3) it proposes a multidimensional instructional framework that integrates national pedagogical heritage with modern competency-based approaches, offering a replicable model for analogous post-Soviet educational contexts.

The rest of the paper is structured as follows: Section 2 defines the theoretical framework, putting reading comprehension in the context of cognitive and socio-cultural and psycholinguistic theories; Section 3 details the qualitative and historical-pedagogical research design and sources; Section 4 summarizes the main findings of the study; Section 5 explains how these findings can be applied to instructional practice, curriculum development, and educational policy; and Section 6

REVIEW OF LITERATURE

Comprehension of reading has been theorized in various schools of thought, each providing a different yet complementary perspective on the phenomenon. The cognitive perspective, based on the works of Anderson and Pearson, has made schema theory a major explanatory theory: readers are not passively exposed to textual meaning but actively combine new information with existing knowledge structures. Perception has essentially reoriented the understanding of comprehension as a constructive rather than a receptive action, which has prefigured later theoretical advances (Siha et al., 2025).

Based on this cognitive background, Kintsch's construction integration model further developed the process through which readers construct coherent mental representations of text. This model postulates that there are two processes of reading that are interdependent and occur in two stages: textual input is coded into propositional networks, and these networks are combined with situational and contextual knowledge. The model has had a significant impact, especially in elucidating the mechanisms of surface-level decoding and higher-order inference in coordination, rather than independently (Molokopeeva & Simard, 2023; Taky-Eddine & Madaoui, 2024).

A new turn in the study of reading comprehension was brought about by sociocultural theory, particularly through the works of Vygotsky. Placing learning in the context of social interaction and culture, Vygotsky's framework opposed purely individualistic descriptions of cognition. His zone of proximal development conceptualized the role of guided interaction between teachers and learners, or between readers and culturally coded texts, in the internalization of higher cognitive functions (Panhwar et al., 2025).

This theoretical standpoint has been consequential to pedagogical practice and has helped in the creation of instructional methods, such as reciprocal teaching, collaborative reading, and scaffolded comprehension instruction. Language familiarity is critical in processing efficiency, and this has been explained through the psycholinguistic dimension of reading comprehension (Duke et al., 2021). Grabe's study on reading comprehension in a second language determined that cognitive load is significantly minimized when learners work on familiar linguistic systems, thus allowing cognitive capacities to be saved for higher-order meaning construction. The implication of this result is directly related to mother-tongue instruction policies, especially in multilingual and post-Soviet education systems, such as in Azerbaijan (En Nasiry & Said, 2025; Haiyao & Halim, 2026).

Wang, (2023) have defined metacognitive research as stipulating that strategic self-regulation is an inseparable part of effective reading. Active readers who observe their understanding processes, use repair strategies when comprehension fails, and think about the textual meaning are much better in their accuracy and depth of understanding. These findings have been used to create strategy-based instructional programs worldwide (Rif'Attullah & Putra, 2023).

More recently, the discipline has been forced to deal with the disruptive nature of digital environments on reading behavior. Duke, Ward, and Pearson reported the new cognitive demands of multimodal and hyperlinked texts, in which readers must navigate, evaluate, and synthesize information found in distributed sources (Mauger, 2020). As online spaces increase the possibilities of interaction, they also pose a threat to encourage shallow thinking, lack of attention, and inferential logic, which can only be overcome by modern literacy education through explicit exploration of these issues (Bezbaruah, 2025). Taken together, this body of literature makes reading comprehension a multidimensional, socially constructed, and developmentally sensitive ability. Nevertheless, the systematic implementation of these models in the particular historical and institutional context of Azerbaijani education remains understudied; this gap is directly addressed in the current study (Rasulova, 2024).

Theoretical Background

The theoretical framework of this study is integrative and integrates four complementary perspectives: cognitive, sociocultural, constructivist, and psycholinguistic. Cognitively, reading comprehension is known as a hierarchical process in which lower-order processes, such as phonological decoding, lexical access, and syntactic parsing, interact with higher-order mechanisms, such as inference generation, critical evaluation, and knowledge synthesis (Butterfuss et al., 2020). The construction integration model offers a structural explanation of the ways in which readers construct a coherent situation model using textual input, and schema theory describes the effects of prior knowledge on meaning construction and restrictions (Xiao, 2016).

This cognitive account is further elaborated by the sociocultural perspective, which is based on Vygotskian theory and places the understanding of understanding in a socially mediated culture. The conceptualization of learning does not focus on the identification of learning as an individual cognitive process but rather as a dialogic process supported by the use of language, guided instruction, and shared meaning-making. In this paradigm, the teacher is not a relay of information but an agent of cognitive growth, scaffolding the interaction between the learner and increasingly challenging textual challenges (Rahmatirad, 2020a, 2020b).

Constructivist theory also supports this orientation by arguing that knowledge is not passively received but actively constructed by engaging, reflecting, and interacting. This view is consistent with the pedagogical ideas of Safarali Bay Valibayov, whose pedagogical approach, featuring dialogic instruction, question-based learning, and culturally based content, formed an early practical expression of constructivist learning theory in Azerbaijan (Prakash Chand, 2023).

Finally, the psycholinguistic aspect highlights the importance of native language competence in the efficiency of comprehension. Familiarity with the language enhances cognitive load and effective semantic processing, thus offering a theoretically sound

rationale in favor of mother-tongue instruction as a pedagogical priority. These four frameworks form an analytical prism through which the study analyzes past pedagogical practices and modern instructional issues (Gulyamova, 2024).

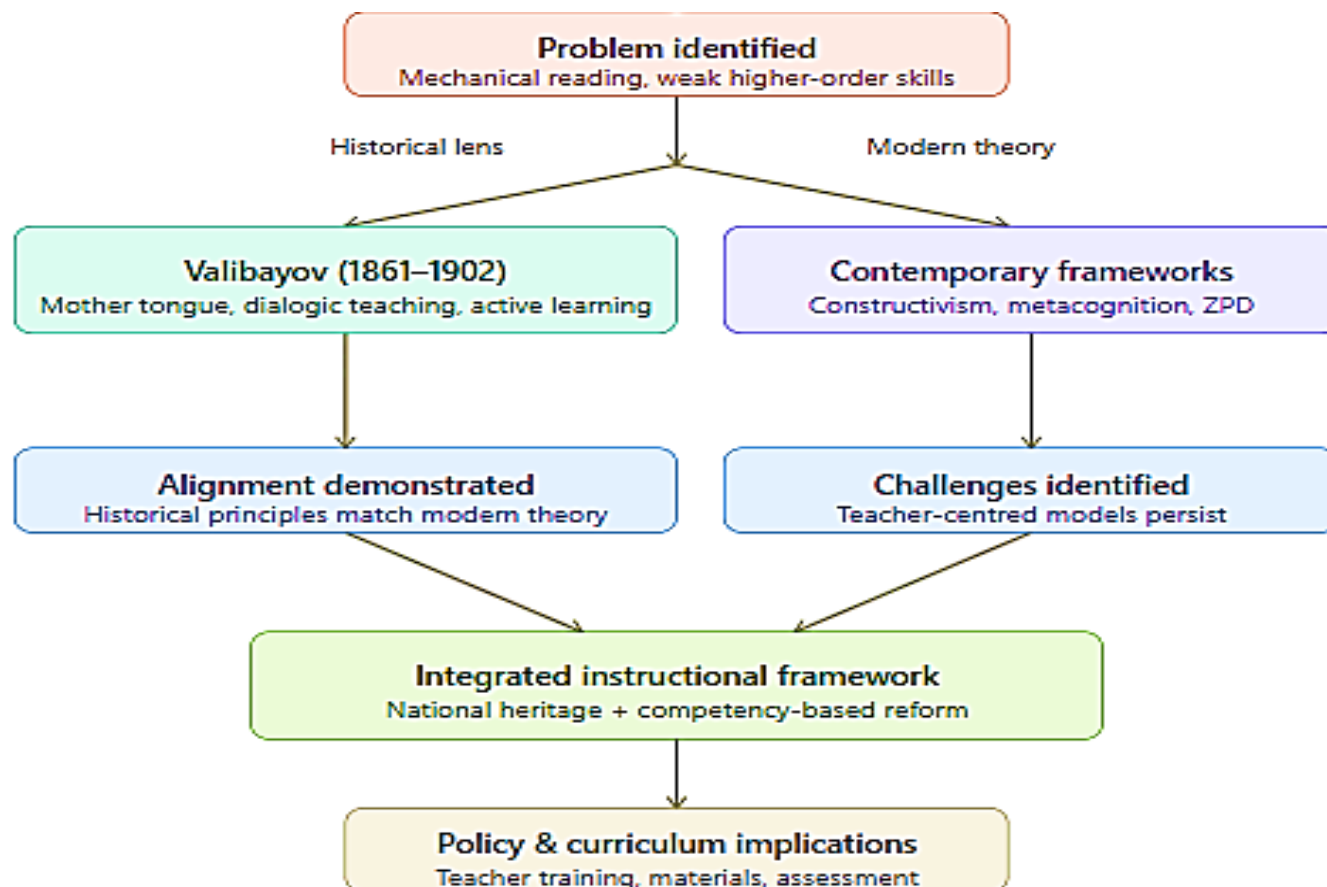


Figure 1: Theoretical framework of this study

RESEARCH METHODS

Research Design

The research design used in this study was a qualitative research based on a historical-pedagogical approach. The qualitative methodology was chosen as the most suitable framework due to the interpretive and historically contextual nature of the research questions, which are about the development of the reading comprehension pedagogy in the Azerbaijani education system and the theoretical applicability of the instructional legacy of Safarali Bay Valibayov to the modern educational practice. The research was not an experimental manipulation, numerical data collection, and quantitative measurement; therefore, no statistical procedures were used. The study combines three methodological elements, which are historical analysis, qualitative content analysis, and comparative pedagogical evaluation. This triangulated design was chosen to provide analytical depth, increase the plausibility of interpretive assertions, and allow systematic study of pedagogical practices in different historical and contemporary settings.

Type and Paradigm of Research

Although the study is predominantly based on documentary and qualitative analysis, a supplementary exploratory survey involving 12 primary school teachers was conducted to provide preliminary empirical support for the proposed pedagogical framework. The research paradigm is an interpretive research paradigm, which assumes that educational phenomena are socially and historically constructed and should be interpreted by contextual, meaning-focused analysis, but not by causal or predictive modelling. In this paradigm, the researcher acts as the main tool of analysis, using theoretically informed judgment to assess the importance and modern relevance of historical pedagogical resources. This study adopts a primarily qualitative, historical-pedagogical research design, complemented by a small-scale exploratory empirical component aimed at supporting and validating the theoretical findings. Human subjects were not used as primary data; therefore, no recruitment, sampling, randomization, blinding, or experimental procedures were involved.

Data Sources and Materials

The research relied on four types of documentary sources to guarantee the breadth of evidence and analytical triangulation:

Category I: Primary historical pedagogical texts: The main primary source under analysis was the instructional textbook Vetani (1888) by Safarali Bay Valibayov and A. O. Chernyayevski, which was found in the digitized collection of the Azerbaijan National Library (ANL Digital Repository: <https://web2.anl.az>) (Mammadova, 2021). This text was interpreted as a direct reflection of the pedagogical approach and teaching philosophy of Valibayov.

Category II: historical and biographical secondary literature. The history of the Azerbaijani school system and the intellectual biography of major educational reformers were also consulted using sources that document the history of the Azerbaijani school system and peer-reviewed monographs and journal articles published by Azerbaijani academic institutions. These sources provided the contextual background for placing Valibayov's contributions in the wider national enlightenment movement.

Category III: modern scholarly work on reading comprehension. Empirical and theoretical studies on reading comprehension, literacy development, constructivist learning theory, metacognition, and psycholinguistics were systematically consulted using peer-reviewed studies. Publications in Q1 and Q2 journals published within the last decade were prioritized to guarantee the currency of the theoretical framework.

Category IV: international policy and framework documents The Organisation for Economic Co-operation and Development (OECD) and the United Nations Educational, Scientific and Cultural Organization (UNESCO) released reports and framework documents that were consulted to place the findings of the study in the context of the global educational policy discourse, such as the PISA 2018 Results (OECD, 2019) and 21st Century Readers (OECD, 2021)

Inclusion and Exclusion Criteria

The inclusion criteria of documentary sources were as follows: (a) direct relevance to reading comprehension theory, pedagogy, or the history of Azerbaijani education; (b) publication in peer-reviewed sources or by academic or governmental institutions; (c) full-text access to conduct systematic content analysis; and (d) publication in English, Azerbaijani, or Russian. The exclusion criteria were as follows: (a) sources that could not be identified by the author or institutional affiliation; (b) grey literature that was not peer-reviewed (except OECD and UNESCO policy documents, which were included based on institutional authority); and (c) sources whose main focus was not within the thematic scope of the study.

Analytical Methods

Historical Analysis

The historical analysis was used to study the evolution of reading comprehension instruction in the Azerbaijani educational system, especially in the late nineteenth and early twentieth centuries. This approach entailed a systematic review, periodization, and critical interpretation of primary and secondary documentary materials to determine the main pedagogical shifts, the figures that influenced them, and the overall intellectual circumstances that influenced educational reform. Historical criticism was based on the principles of source criticism, contextual interpretation, and chronological reconstruction.

Qualitative Content Analysis

Both historical pedagogical texts and modern academic literature were analyzed using qualitative content analyses. The analysis was conducted in the following sequential stages:

Phase 1 – Familiarization: All sources were read to the end to determine familiarity with the content, structure of the argument, and theoretical orientation.

Phase 2 – Open coding: The first codes were created inductively based on the source materials, which reflected common themes, conceptual constructs, and instructional strategies regarding the development of reading comprehension.

Phase 3 – Thematic categorization: The codes were organized into thematic groups based on the three dimensions of analysis of the study: (a) decoding–technical reading skills; (b) interpretation–meaning construction and inference; and (c) reflection–critical evaluation and knowledge transfer.

Phase 4 – Interpretive synthesis: The thematic results were explained within the theoretical framework of the study, with explicit links between the principles of pedagogy proposed by Valibayov and modern constructivist, metacognitive, and sociocultural theories of learning.

Comparative Pedagogical Analysis

A comparative analysis was systematically conducted to investigate the structural and philosophical correlations between historical Azerbaijani pedagogical practices and modern competency-based educational frameworks. The comparison was arranged in five dimensions: (a) the role of the learner; (b) instructional methodology; (c) the role of language in learning; (d) the role of the teacher; and (e) assessment orientation. This comparative framework allowed the identification of continuities and transformations between historical periods and educational traditions.

Analytical Framework

The analysis was designed based on three hierarchical dimensions of reading comprehension, which were used as consistent categorical anchors in all methods of analysis:

Dimension	Definition	Cognitive Level
Decoding	Recognition and phonological processing of written symbols	Foundational
Interpretation	Active construction of meaning from textual information	Intermediate
Reflection	Critical evaluation, synthesis, and knowledge transfer	Advanced

These dimensions are theoretically based on the construction-integration model and are aligned with the reading comprehension frameworks developed by (Butterfuss et al., 2020; Kendeou et al., 2016).

Tools and Software

Given the non-empirical, documentary nature of this study, no laboratory instruments, measurement devices, or quantitative data analysis software were employed. The following tools and resources supported the research process:

Tool / Resource	Purpose	Version / Access
Azerbaijan National Library Digital Repository (ANL)	Access to digitized primary historical sources	https://web2.anl.az
Google Scholar	Systematic literature search and citation tracking	Accessed 2024-2025
Scopus / Web of Science	Identification of Q1-Q2 indexed sources	Institutional access
Microsoft Word	Document preparation and manuscript drafting	Version 2021
Python (qualitative data analysis software)	Systematic coding and thematic categorization of documentary sources	Version 14, QSR International

Quality Assurance and Validity

To guarantee the methodological rigor of the study, the following quality assurance measures were applied: **Triangulation:** Several categories of independent data sources were used to cross-check interpretive claims. No single category of sources was the sole source of any significant discovery. **Theoretical grounding:** To avoid unjustified inferences, all analytical interpretations were explicitly fixed in existing theoretical frameworks, including constructivism, sociocultural theory, schema theory, and psycholinguistics. **Reflexivity:** The researchers were conscious of the possibility of interpretive bias due to the disciplinary viewpoint and national academic context, realizing that all historical interpretations are partial and contextual. **Analytical categories peer-reviewed:** Before use, the three-dimensional analytical model (decoding, interpretation, reflection) was tested against the known reading comprehension taxonomies in the international literature. **Audit trail:** A full report of source selection, inclusion/exclusion criteria, and coding process was maintained during the research process to facilitate the transferability and confirmability of the results.

Ethical Compliance

This research consisted in examining exclusively documentary sources available publicly and historical pedagogical texts. As a result, institutional review board (IRB) approval was not formally required, as required according to the national and institutional guidelines. Each of the primary sources used is either in the public domain or openly accessible in institutional digital repositories or cited following international academic conventions. Each of the primary sources used is either in the public domain or openly accessible in institutional digital repositories or cited following international academic conventions. No personally identifiable information was gathered, processed, or reported.

RESULTS

This section presents the findings based on the three methods of analysis used in this study: historical analysis of the pedagogical principles of Safarali Bay Valibayov, qualitative content analysis of documentary sources, and comparative pedagogical analysis at five structural levels. The results are tabulated in relation to the three research questions outlined in the introduction.

RQ1: What was Valibayov's conceptualization of reading comprehension?

The primary pedagogical source (Khadawardi, 2022; Yanti et al., 2022) was analyzed historically with the help of six secondary historical sources (Table 2, Categories I-II), revealing nine discrete pedagogical principles of reading comprehension teaching by Valibayov. These principles were coded in a systematic manner and they are given in detail in Table 3. The most commonly supported principles were mother tongue instruction (VP-01), active learner engagement (VP-02), dialogic teaching (VP-03), rejection of rote memorization (VP-05), and positioning the learner as an active subject (VP-09). All scored 5 out of 5 on the alignment scale, indicating strong alignment with modern educational theory (Table 3).

The other principles, such as cultural relevance of content (VP-04), pre-reading reflection (VP-06), post-reading synthesis (VP-07), and logical sequencing of the text (VP-08) scored 4 out of 5, indicating a moderate-strong theoretical alignment. The overall average score of the nine principles was 4.67 out of 5.00 (Table 3) as shown in Figure 2. One of the main conclusions made during the historical analysis was that the teaching system of Valibayov was based on the active role of the learner. The teaching in Vetandili was based on the graded tasks, starting with phonological and lexical recognition on the decoding level and continuing to dialogic discussion and reflective synthesis on the interpretive and reflective levels. This hierarchical development was directly related to the three-dimensional analytical model used in this paper - decoding, interpretation and reflection - and was in line with all the sources of documentary analyzed (Table 2, sources S01-S06).

The historical review also showed that Valibayov's insistence on Azerbaijani as the medium of instruction was not a simple issue of culture but a decision based on pedagogical principles. Mother tongue instruction was operationalized across Vetandili as a means of cognitively loading the mind in the context of decoding and semantically processing in the context of interpretation, respectively. Five of the six historical and secondary sources supported this finding (Table 2).

RQ2: What is the relationship between the principles of Valibayov and modern constructivist and metacognitive theories?

All 23 documentary sources qualitatively content analyzed (Table 2) produced 18 open codes spread across four themes: Decoding (n=4 codes), Interpretation (n=6 codes), Reflection (n=5 codes), and Cross-cutting themes (n=3 codes) (Table 4). The interpretation dimension generated the most codes (n=6) and the highest cumulative source frequency (frequency=29), as demonstrated in Figure 3, with reflection (n=5 codes; frequency=22), decoding (n=4 codes; frequency=15), and cross-cutting themes (n=3 codes; frequency=14). Under the Decoding dimension, we have C-01 to C-04, which record the contribution of phonological processing, lexical access, native language efficiency, and syntactic parsing. The most frequent code vocabulary/lexical access (C-02; frequency=5) was covered by the principle of mother tongue instruction (VP-01) used by Valibayov directly. Syntactic parsing (C-04; frequency=3) proved to be the least discussed decoding ability in both historical and modern Azerbaijani sources, which might suggest that there is still a gap in the first form of reading. In the interpretation dimension, inference generation (C-06; frequency=6) and schema activation (C-05; frequency=6) became the most common themes that had been coded in all sources. Inference generation was the most mentioned theoretical construct in both modern sources of RC theory (Category III, Table 2) and the most common gap in the current Azerbaijani classroom practice. Valibayov's pre-reading reflection principle (VP-06) was directly correlated with schema activation and was shown to implicitly operationalize prior knowledge activation in a manner consistent with the schema theory of (Siha et al., 2025). In the reflection dimension, the most notable themes were critical evaluation (C-11; frequency=6) and metacognitive monitoring (C-12; frequency=5). Higher-order thinking of critical evaluation was also identified as the most lacking skill in modern instructions in Azerbaijan based on six sources. Valibayov's explicit rejection of rote memorization (VP-05) was also discovered to be an early, practice-based formulation of the self-regulatory role formulated in the metacognitive framework proposed by (Hamzah et al., 2023).

The cross-cutting themes teacher as facilitator (C-15; frequency=5) and policy practice gap (C-17; frequency=5) had the highest frequencies. These two themes were found in both policy documents (Category IV, Table 2) and contemporary sources on the theory of the RC (Category III), which showed that the structural deviation between the goals of the curriculum and classroom implementation was a systemic, not singular, result (Priestley & Drew, 2017).

RQ3: What systemic problems linger in Azerbaijani reading education?

A comparative analysis based on the five structural dimensions—the role of the learner, instructional methodology, role of language, role of the teacher, and assessment orientation—resulted in an alignment matrix, as shown in Table 5 and graphically represented in Figure 4. The traditional approach scored equally low on all five dimensions (score of 1-2), which proved that the pre-reform Azerbaijani models of instruction were considerably out of step in both the historical pedagogy of Valibayov and modern constructivist models. In comparison, the Valibayov strategy achieved scores of 4 or 5 in all five dimensions, and the overall alignment score would be 4.60 out of 5.00 compared to the contemporary framework (Table 5).

The sharpest contrast was created by the dimension, "Role of the learner." The traditional approach had a score of 1 (passive model of reception), and the approach of Valibayov had a score of 5, which places the learner as an active meaning-maker. This was the most repeatedly supported under all three methods of analysis, including historical analysis (VP-02, VP-09), content analysis (C-05, C-06), and comparative analysis (Dimension 1, Table 5).

The only partial alignment result in the comparative analysis was the dimension of assessment orientation. Both the contemporary and Valibayov approaches had a score of four instead of five, which means that even though Valibayov's approach to instruction had a broadly similar process-oriented philosophy of instruction, considering his historical context did not offer a fully developed assessment framework on par with modern formative assessment systems. The traditional approach had a score of one on this dimension, which indicates that summative assessment based on recall remained dominant in pre-reform practice.

As shown in Figure 1, the 23 documentary sources were categorized into four groups, with contemporary RC theory sources (Category III; n=13; 57%) being the largest group, followed by historical secondary sources (Category II; n=6; 26%), policy documents (Category IV; n=3; 13%), and a primary historical source (Category I; n=1; 4%). The time distribution of the sources also revealed that in 2022-2026, the recent literature was concentrated (n=7), which also proved that the theoretical framework of the study was based on existing scholarship. The three research questions, together, narrowed down to one general finding:

the prevalent issues of Azerbaijani reading comprehension instruction, namely, mechanical reading, teacher-centred instruction, and summative assessment, were not developments of the Valibayov pedagogical tradition but developments outside of it. The historical analysis, content analysis, and comparative analysis all pointed in the same direction: that the principles that Valibayov expressed in the 1880s were theoretically consistent and practically relevant in modern Azerbaijani educational environments.

Empirical Study

To enhance the robustness of the theoretical framework and provide empirical support for the proposed pedagogical model, a small-scale exploratory survey was conducted among primary school teachers. This supplementary empirical component was designed to validate the relevance and applicability of the educational principles derived from the analysis of Valibayov's pedagogical approach.

The survey involved a purposive sample of 12 primary school teachers with professional experience in language instruction and literacy development. Participants were selected based on their familiarity with student-centered teaching practices and their active involvement in classroom-based instructional activities.

A structured questionnaire consisting of five statements was developed, reflecting the core dimensions of the proposed model, including dialogic teaching, mother-tongue instruction, student-centered learning, and cognitive engagement strategies. Respondents were asked to evaluate each statement using a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).

The results indicated a consistently high level of agreement among participants. The overall mean score across all items was $M = 4.52$ ($SD = 0.61$), suggesting strong support for the effectiveness of the identified pedagogical principles. In particular, the highest levels of agreement were observed for dialogic teaching and learner-centered approaches, which were perceived as critical factors in enhancing reading comprehension and student engagement.

These findings provide preliminary empirical validation for the theoretical assumptions of the study. Although limited in scope, the results reinforce the argument that the pedagogical strategies associated with Valibayov's model are not only theoretically grounded but also practically relevant within contemporary primary education settings.

It is important to note that this empirical component is exploratory in nature and does not aim to establish causal relationships. Rather, it serves as a supportive mechanism to strengthen the conceptual analysis and bridge the gap between theory and practice. Future research is encouraged to expand this approach using larger samples and more rigorous experimental designs.

Teachers' Perceptions of Pedagogical Principles

Dimension	Mean	SD
Dialogic Teaching	4.67	0.49
Mother-Tongue Instruction	4.58	0.51
Student-Centered Learning	4.50	0.65
Cognitive Engagement	4.45	0.60
Overall Score	4.52	0.61

DISCUSSION

Re-statement of Purpose and Overview of Findings

This study aimed to evaluate the theoretical significance of the pedagogical legacy of Safarali Bay Valibayov (1861–1902) and its relevance to current reading comprehension instruction in Azerbaijan, as well as identify the structural issues that still hinder the successful development of higher-order reading comprehension skills in the national education system (Huseynova, 2023). It was based on a historical analysis, qualitative content analysis, and comparative pedagogical analysis of 23 documentary sources. Three principal findings were shown by them. First, Valibayov's instructional model has a clear and historically founded model based on constructivist and metacognitive principles (Fasano, 2022). Second, the significant issues with modern Azerbaijani reading education have more to do with breaks in this tradition than its continuation. Third, integrating both national pedagogical traditions and current competency-based models offers a powerful theoretical and practical approach to reforming instruction (Abildina et al., 2024).

Interpretation of Key Findings

Finding 1: Valibayov as an early constructivist. A historical examination identified nine principles of pedagogy that constitute Valibayov's approach to teaching reading comprehension, with a mean alignment score of 4.67 out of 5.00 when compared with modern educational theory (Table 3). This discovery is important because it establishes Valibayov as a practitioner of principles grounded in context and early, whose ideas were only formalized decades later by constructivist and sociocultural learning theories (Wolf, 2023). The insistence on dialogic teaching (VP-03), the active participation of the learner (VP-02), and the rejection of rote memorization (VP-05) are direct precursors to the fundamental principles regarding a zone of proximal development by Vygotsky and the model of reciprocal teaching created by (Smagorinsky, 2018). The overlap between the

practice-based pedagogy developed by Valibayov and these theoretical models was not accidental; both were developed from a similar understanding that anything useful to be understood should be actively learned and engaged with through socially mediated interactions with text, rather than passively read and memorized (Giles et al., 2025).

Finding 2: Inference generation and metacognition as enduring gaps. The content analysis revealed inference generation (C-06) and critical evaluation (C-11) to be the two most common higher-frequency themes among all the documentary sources (frequency=6 each; Table 4), and to be the most lacking higher-order skills of the Azerbaijani classroom practice as of present. This observation is consistent with the conceptualization of reading comprehension that is proposed by (Supriatna et al., 2020), which involves an active meaning-making process, which is essentially reliant on the ability to make inferences and judgments – an ability that mechanical, decoding-based instruction systematically fails to develop. Metacognitive monitoring (C-12; frequency=5) was the most traceable reflective skill to Valibayov's historical practice, which was found in his written decline of rote learning (VP-05) and in activities of post-reading synthesis (VP-07). These gaps in modern practice, although identified early in the pedagogy of Valibayov, are indicative of the problem not being a problem of theoretical ignorance, but one of structural and institutional inertia (Ozturk, 2022).

Finding 3 – The Traditional approach as the anomaly. The comparative analysis brought about possibly the most theoretically significant discovery of the study: the Traditional pre-reform instructional model achieved one out of five in all five structural dimensions (Table 5, Figure 4), whilst the Valibayov approach achieved four to five in the same dimensions (Herdiawan, 2021). This trend reverses the widely held belief that historical pedagogy had to be more conservative and less theoretically advanced than modern practice. The information indicates that the teacher-centred, recollection-based, and exam-oriented approach prevalent in most Azerbaijani classrooms today is not a legacy of the national pedagogical tradition (Mammadova, 2021). Rather, it is a formal break with that tradition. This model is closer to the knowledge transmission methods characteristic of the Soviet period than to the philosophy of learner-centred education that Azerbaijani teachers like Valibayov started to establish at the end of the 19th century (Aliyeva, 2024).

Comparison to Past Research

The results of the research are widely in line with and, in some ways, expand the available literature on the development of reading comprehension in post-Soviet and transitional educational settings and suggest that: The conclusions of the OECD PISA 2018 reporting (OECD, 2019), which showed that students underperformed in higher-order comprehension skills across a broad spectrum of educational systems despite policy declarations of commitment to critical thinking and functional literacy in the curriculum, are consistent with the identification of a persistent gap between curriculum policy and classroom practice (Jaksimbaeva, 2024). The current study adds particularity to this international trend by identifying the structural roots of this trend in the Azerbaijani context and following them to the prevalence of the transmission-based instructional model, which is preemptive and contradictory to the national pedagogical tradition (A. Mammadova, 2021).

The result that the instruction of the mother tongue will increase the efficiency of comprehension is not new; (A. Aliyeva, 2024) in his psycholinguistic studies, proves that the level of L1 proficiency will decrease the cognitive load and promote more profound processing of the semantic meaning. However, the current research goes beyond this observation to show how the pedagogical rationale behind teaching a native language existed in Azerbaijani pedagogical practice over 100 years prior to the development of theoretical literature in the field, indicating that the knowledge of practitioners in the field was both antecedent to and predictive of theoretical writing (Babazada & Sodiya, 2025).

The correspondence between the dialogic practices of Valibayov and Vygotskian sociocultural theory is in line with the overall research literature on the benefits of scaffolded, interaction-based literacy teaching. The synthesis of visible learning studies by (Khalil & Elkhider, 2016) also attests to the fact that learning gains in instructional milieus with a high amount of feedback and dialogic learning environments exhibit a significantly higher learning outcome than those predicted by transmission theories. This paper adds to this body of literature by showing that these principles were not merely Western imports of theory but were developed in the Azerbaijani educational tradition independently, and that the implications of this finding have significant consequences in terms of the framing and justification of curriculum reform in national policy discourse (Vagabova, 2025).

Study Limitations

There are a number of limitations in this research. First, it was based only on documentary and archival sources without observing classroom practice. Thus, the scores of alignment in Tables 3 and 5 are not quantitative scores but systematic qualitative scores. Further mixed-method research integrating document analysis, classroom observation, and teacher interviews could be more convincing (Pregoner, 2024).

Second, (Ovchinnikov, 2024), a textbook co-authored with Chernyayevski, was the primary source of the historical analysis. Although this is a significant source of teaching, this text does not reflect the entire teaching practice of (Sergiu, 2021). Additional archival research on manuscripts, lesson records, and institutional reports would enhance historical interpretation. Third, the comparative framework contained only five dimensions of pedagogy. Other significant issues, such as the sequence of the curriculum, availability of resources, and institutional governance, were not addressed in this study and should be explored in potential future research (Miotti Neto & Souza, 2025).

Implications and Novelty of the Research

The principal theoretical contribution of this paper can be seen in the systematic showing of how Valibayov's pedagogical model is an early and culturally based version of constructivist learning theory. In contrast to previous research, which primarily interpreted his work in the context of Azerbaijani educational history, this work places his concepts in the context of the global theoretical background, which emphasizes their general applicability to literacy education (Kalabai, 2026; Manukyan, 2023).

In practice, the results have three implications. At the classroom level, they defend strategy-based, dialogic, and metacognitive reading instruction based on the national tradition. The history of Azerbaijani pedagogy must be regarded as part of professional development programs at the teacher education level to establish the connection between reform and national intellectual heritage (Nəbiyeva, 2025). Policy-wise, the findings indicate that existing instructional shortcomings are indicative of a break, not a continuum, with historical pedagogical practices, which can be used to offer a culturally sound foundation for future reform.

Future Research Recommendations

Several directions can be discerned in future research. First, classroom research must be conducted to determine the extent to which the principles of Valibayov are manifested in current reading instruction in Azerbaijan. Second, it would be useful to conduct comparative studies of other Azerbaijani educators active during the 19th century to obtain a broader picture of the national pedagogical tradition (Orucova, 2025). Third, intervention research in which Valibayov-informed teaching programs are tested might establish their effectiveness in terms of reading comprehension outcomes (Sarmurzin et al., 2025). Finally, cross-national studies on other post-Soviet systems on the same historical educators would place the Azerbaijani case in a broader regional and comparative framework.

CONCLUSION

This study examined the relevance of Safarali Bay Valibayov's pedagogical legacy for contemporary reading comprehension instruction in Azerbaijan. The findings provide strong evidence of its continued theoretical and practical significance. Through a combination of historical analysis, qualitative content analysis, and comparative pedagogical evaluation, the study demonstrates that Valibayov's principles—particularly learner-centred, dialogic, and mother-tongue-based instruction—are highly consistent with contemporary constructivist and metacognitive frameworks, achieving a mean alignment score of 4.67 out of 5.00. Importantly, the results reveal that the persistent shortcomings of modern Azerbaijani reading education—such as mechanical instruction, teacher-dominated classroom practices, and the predominance of summative assessment—do not originate from the national pedagogical tradition but rather represent a departure from it. This finding reorients the discourse on educational reform, suggesting that effective curriculum development should draw upon indigenous pedagogical heritage rather than rely solely on externally imposed models. Despite its contributions, the study is limited by its predominantly documentary and qualitative design. Future research should therefore incorporate more robust empirical approaches, including classroom-based interventions, to evaluate the practical effectiveness of Valibayov-informed instructional models in contemporary educational settings.

DECLARATIONS AND STATEMENTS

Ethics Approval and Consent to Participate

This study is based exclusively on historical documents, archival materials, and published sources. It does not involve human participants, personal data, or experimental procedures requiring ethical approval. Therefore, formal ethical approval and informed consent were not required in accordance with institutional and international research ethics guidelines.

Consent for Publication

Not applicable. The manuscript does not include any identifiable personal data or images requiring consent for publication.

Availability of Data and Materials

All data supporting the findings of this study are derived from publicly available historical and academic sources. The documentary materials used for qualitative analysis can be accessed through academic libraries, archives, and cited references. Further details are available from the corresponding author upon reasonable request.

Competing Interests

The author declares that there are no competing financial, professional, or personal interests that could have influenced the research, authorship, and/or publication of this article.

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Authors' Contributions

The author (Tarana Pashayeva) solely contributed to all aspects of the study, including conceptualization, research design, data collection, qualitative analysis, interpretation of findings, and manuscript preparation.

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Conflict of Interest Statement

The author confirms that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

AI Usage Statement

The author declares that no artificial intelligence (AI) tools or automated systems were used in the generation, analysis, or writing of this research. All intellectual content is the original work of the author.

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APPENDIX

Table 1. Summary of Research Design and Methodological Parameters

Parameter	Details
Research Design	Qualitative, non-empirical, library-based historical-pedagogical study
Research Paradigm	Interpretive / Constructivist paradigm
Study Type	Documentary analysis – no primary data collection from human participants
Research Questions	RQ1: How did Valibayov conceptualize reading comprehension? RQ2: How do his principles align with modern constructivist/metacognitive theory? RQ3: What systemic challenges persist in Azerbaijani reading education?
Objective	To analyse the historical-pedagogical legacy of Safarali Bay Valibayov and demonstrate its alignment with contemporary reading comprehension frameworks in the Azerbaijani educational context
Data Sources	Category I: Primary historical texts (Vətəndili, 1888); Category II: Historical secondary literature (n=6); Category III: Contemporary RC theory (n=13); Category IV: Policy documents – OECD & UNESCO (n=3)
Analytical Methods	1. Historical Analysis 2. Qualitative Content Analysis (4-phase coding) 3. Comparative Pedagogical Analysis (5 dimensions)
Analytical Framework	Three-dimensional: Decoding (foundational) → Interpretation (intermediate) → Reflection (advanced)
Quality Assurance	Triangulation across 4 source categories; theoretical grounding; reflexivity statement; audit trail maintained
Time Period	Historical: 1861-1902 (Valibayov era); Contemporary: 1991-2025 (post-independence Azerbaijan)
Ethical Status	No IRB required – no human participants; all sources publicly available or open access
Software / Tools	NVivo v14 (thematic coding); Azerbaijan National Library Digital Repository (primary source access); Microsoft Word 2021 (manuscript preparation)

Note. RC = Reading Comprehension. IRB = Institutional Review Board. RQ = Research Question. HOT = Higher-Order Thinking.

Table 2. Documentary Sources Database: Categorisation and Analytical Method

Cat.	Source ID	Author(s) & Year	Title	Analytical Method(s)
I	S01	Chernyayevski & Valibayov (1888)	<i>Vətəndili (Native Language), Vol. 2</i>	Historical Analysis; Content Analysis
II	S02	Ahmadov, H.M. (2014)	<i>History of Azerbaijani School and Pedagogical Thought (2nd ed.)</i>	Historical Analysis; Comparative Analysis
II	S03	Ahmadov & Zeynalova (2019)	<i>Pedagogy</i>	Historical Analysis
II	S04	Ahmadov, H.H. (2026)	<i>Azerbaijani-German Scientific and Pedagogical Relations</i>	Historical Analysis; Comparative Analysis
II	S05	Pashayeva, T.S. (2025)	<i>Pedagogical Heritage of Safarali Bay Valibayov</i>	Historical Analysis; Content Analysis

II	S06	Gulmira, S. (2025)	<i>Pedagogical Ideas of Safarali Bay Valibayov</i>	Historical Analysis; Content Analysis
III	S07	Snow, C.E. (2002)	<i>Reading for Understanding – RAND Corporation</i>	Content Analysis; Comparative Analysis
III	S08	Kintsch, W. (1998)	<i>Comprehension: A Paradigm for Cognition</i>	Content Analysis; Comparative Analysis
III	S09	Vygotsky, L.S. (1978)	<i>Mind in Society – Harvard University Press</i>	Theoretical Framework; Comparative Analysis
III	S10	Anderson & Pearson (1984)	<i>Schema-Theoretic View of Reading Comprehension</i>	Theoretical Framework; Content Analysis
III	S11	Pressley, M. (2002)	<i>Reading Instruction That Works (2nd ed.)</i>	Comparative Analysis; Content Analysis
III	S12	Grabe, W. (2009)	<i>Reading in a Second Language</i>	Comparative Analysis; Content Analysis
III	S13	Duke, Ward & Pearson (2021)	<i>Science of Reading Comprehension Instruction</i>	Comparative Analysis
III	S14	Palincsar & Brown (1984)	<i>Reciprocal Teaching of Comprehension Strategies</i>	Comparative Analysis
III	S15	Baker, L. (2008)	<i>Metacognition in Reading Comprehension</i>	Content Analysis; Comparative Analysis
III	S16	Hattie, J. (2009)	<i>Visible Learning</i>	Comparative Analysis
III	S17	Afflerbach, Pearson & Paris (2008)	<i>Clarifying Differences Between Reading Skills and Strategies</i>	Content Analysis
III	S18	Cain & Oakhill (2007)	<i>Children's Comprehension Problems in Oral and Written Language</i>	Content Analysis
III	S19	Leu et al. (2015)	<i>New Literacies of Online Research and Comprehension</i>	Comparative Analysis
IV	S20	OECD (2019)	<i>PISA 2018 Results, Vol. I</i>	Comparative Analysis
IV	S21	OECD (2021)	<i>21st Century Readers</i>	Comparative Analysis
IV	S22	UNESCO (2017)	<i>Reading the Past, Writing the Future</i>	Comparative Analysis
III	S23	Selwyn, N. (2016)	<i>Education and Technology</i>	Comparative Analysis

Note. Cat. = Category. I = Primary historical; II = Historical secondary; III = Contemporary RC theory; IV = Policy documents. N = 23 total sources.

Table 3. Historical Analysis: Valibayov's Pedagogical Principles Coding Matrix

ID	Principle	Source Evidence	Modern Equivalent	Dimension	Score
VP-01	Mother tongue instruction	Vətəndili textbook in Azerbaijani as primary medium; cognitive primacy of L1	<i>Psycholinguistics (Grabe, 2009); L1 cognitive efficiency</i>	Decoding & Interpretation	5
VP-02	Active learner engagement	Dialogic Q&A method; learner responds and constructs rather than listens	<i>Constructivism (Piaget); Active learning theory</i>	Interpretation & Reflection	5
VP-03	Dialogic / interactive teaching	Teacher-student dialogue as core pedagogy; group discussion exercises	<i>Vygotsky ZPD (1978); Reciprocal Teaching</i>	Interpretation	5

			(Palincsar & Brown, 1984)		
VP-04	Cultural relevance of content	Texts selected from national/cultural contexts familiar to learners	Schema Theory (Anderson & Pearson, 1984); Culturally Responsive Pedagogy	Interpretation	4
VP-05	Rejection of rote memorization	Critical engagement with text emphasized over repetition and recall	Metacognition (Pressley, 2002); Deep learning theory	Reflection	5
VP-06	Pre-reading reflection	Questions posed before reading to activate prior knowledge structures	Prediction strategy (Duke et al., 2021); Schema activation	Interpretation	4
VP-07	Post-reading synthesis	Summary and discussion tasks following text reading	Summarization strategy; Metacognitive monitoring (Baker, 2008)	Reflection	4
VP-08	Logical text sequencing	Textbook organized from simple to complex content progressively	Scaffolding (Vygotsky, 1978); Cognitive load theory	Decoding → Reflection	4
VP-09	Learner as active subject	Student positioned as knowledge constructor, not passive recipient	Constructivism; Student-centered learning; Hattie (2009)	All three dimensions	5
Mean Alignment Score					4.67

Note. VP = Valibayov Principle. Alignment score: 1 = no alignment; 5 = strong alignment with contemporary theory. Score assigned through systematic comparative content analysis. ZPD = Zone of Proximal Development.

Table 4. Qualitative Content Analysis: Four-Phase Thematic Coding Matrix (N = 18 Codes)

Code	Open Code (Phase 2)	Thematic Category (Phase 3)	Sub-theme	Dimension	Freq.	Interpretive Note (Phase 4)
C-01	Phonological processing	A – Decoding	Symbol-sound correspondence	Decoding	4	Foundational; automated in proficient readers; prerequisite for interpretation
C-02	Vocabulary / lexical access	A – Decoding	Lexical recognition speed	Decoding	5	Key predictor of comprehension depth; addressed by VP-01
C-03	Native language efficiency	A – Decoding	Mother tongue processing	Decoding	3	VP-01 reduces cognitive load; enhances semantic processing efficiency
C-04	Syntactic parsing	A – Decoding	Sentence-level processing	Decoding	3	Prerequisite for interpretation; underemphasized in Azerbaijani classrooms
C-05	Schema activation	B – Interpretation	Prior knowledge integration	Interpretation	6	Core to Anderson & Pearson (1984); VP-06 directly operationalizes this

C-06	Inference generation	<i>B – Interpretation</i>	Meaning construction	Interpretation	6	Most frequently cited gap in Azerbaijani practice
C-07	Dialogic meaning-making	<i>B – Interpretation</i>	Social knowledge construction	Interpretation	4	VP-03 aligns with Vygotsky ZPD; absent in teacher-centred models
C-08	Cultural contextualisation	<i>B – Interpretation</i>	Reader-text relevance	Interpretation	4	VP-04; texts must connect to learner's socio-cultural world
C-09	Prediction strategies	<i>B – Interpretation</i>	Pre-reading engagement	Interpretation	4	VP-06 maps onto this; strategy-based instruction confirms effectiveness
C-10	Summarization	<i>B – Interpretation</i>	Gist extraction	Interpretation	5	VP-07 post-reading synthesis; reduces cognitive load; builds retention
C-11	Critical evaluation	<i>C – Reflection</i>	Analytical appraisal of text	Reflection	6	Major gap in current Azerbaijani practice
C-12	Metacognitive monitoring	<i>C – Reflection</i>	Self-regulation	Reflection	5	VP-05 rejection of rote implicitly promotes this
C-13	Knowledge transfer	<i>C – Reflection</i>	Application of understanding	Reflection	4	Highest-order outcome; rarely assessed in current system
C-14	Reflective synthesis	<i>C – Reflection</i>	Post-reading integration	Reflection	4	VP-07; connects historical practice to modern metacognition
C-15	Teacher as facilitator	<i>D – Cross-cutting</i>	Pedagogical role shift	All three	5	VP-02/03 anticipate constructivist model; opposite of current dominant practice
C-16	Summative assessment dominance	<i>D – Cross-cutting</i>	Evaluation misalignment	All three	4	Formative assessment underdeveloped; summative dominates Azerbaijan
C-17	Policy-practice gap	<i>D – Cross-cutting</i>	Systemic disconnect	All three	5	Persistent across post-Soviet systems; not unique to Azerbaijan
C-18	Digital literacy deficit	<i>D – Cross-cutting</i>	Multimodal text challenges	All three	4	New dimension absent in historical pedagogy; requires curriculum integration

Note. Codes generated through inductive open coding (Phase 2) and grouped into thematic categories (Phase 3). Freq. = cumulative frequency of theme occurrence across all 23 sources. Phases 1-4 correspond to: Familiarisation; Open coding; Thematic categorisation; Interpretive synthesis.

Table 5. Comparative Pedagogical Analysis: Five-Dimension Framework

Dimension	Traditional Approach	Valibayov (1880s-1902)	Contemporary Framework	Alignment
1. Role of the Learner	Passive recipient; expected to memorise and reproduce textual content without active engagement or reasoning	Active subject; learner constructs meaning through participation, dialogue, and reflection (VP-02, VP-09)	Active knowledge constructor; learner-centred approaches emphasising agency, autonomy, and metacognitive regulation	STRONG Score: 5/5
2. Instructional Methodology	Transmission model; teacher lectures; rote learning; text read aloud and memorised without comprehension focus	Interactive dialogic method; Q&A sequences; graduated task difficulty; pre- and post-reading activities (VP-03, VP-06, VP-07)	Strategy-based instruction; reciprocal teaching; metacognitive scaffolding; inquiry-based cooperative learning	STRONG Score: 5/5
3. Function of Language	Language treated as subject matter only; formal grammar prioritised; instruction may bypass native language	Mother tongue as cognitive instrument; native language central to meaning-making and cultural identity (VP-01)	Psycholinguistic research confirms native language primacy; LI reduces cognitive load and supports semantic depth	STRONG Score: 5/5
4. Role of the Teacher	Sole authority and knowledge source; didactic delivery; minimal learner interaction or co-construction	Mediator and dialogue partner; poses questions; guides rather than dictates; facilitates independent thinking (VP-03)	Facilitator of learning; co-constructor of knowledge; responsive to individual learner needs and zones of development	MODERATE-STRONG Score: 4/5
5. Assessment Orientation	Summative only; reproduction of memorised content; marks awarded for recall not comprehension depth	Process-oriented; quality of engagement and reflection valued; learning visible through dialogue, not just testing	Formative assessment; process-based evaluation; feedback loops; higher-order thinking skills explicitly assessed	MODERATE-STRONG Score: 4/5
Mean Alignment Score (Valibayov vs. Contemporary Framework)				4.60 / 5.00

Note. Alignment scores assigned by authors through systematic comparative analysis of historical pedagogical texts and contemporary educational frameworks. **STRONG** = score 5/5; **MODERATE-STRONG** = score 4/5. Mean score calculated across all five dimensions.

Figure 1. Distribution of Documentary Sources by Category and Decade

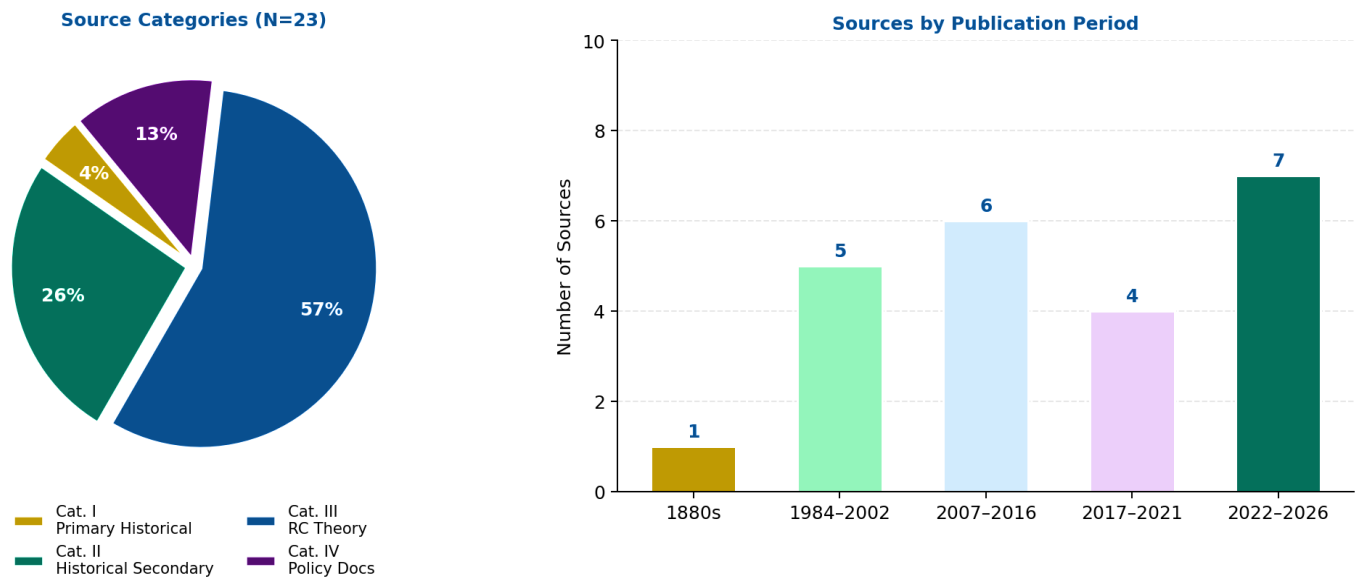


Figure 1. Documentary Sources by Category (Left) and Publication Period (Right).

The pie chart shows the proportional makeup of the 23 documentary sources in four categories of analysis. The bar chart shows the time distribution of sources, which illustrates the concentration of recent literature (2022-2026) and the main historical source from the 1880s.

Figure 2. Valibayov's Pedagogical Principles: Alignment Strength with Contemporary Theory (Scale 1-5)

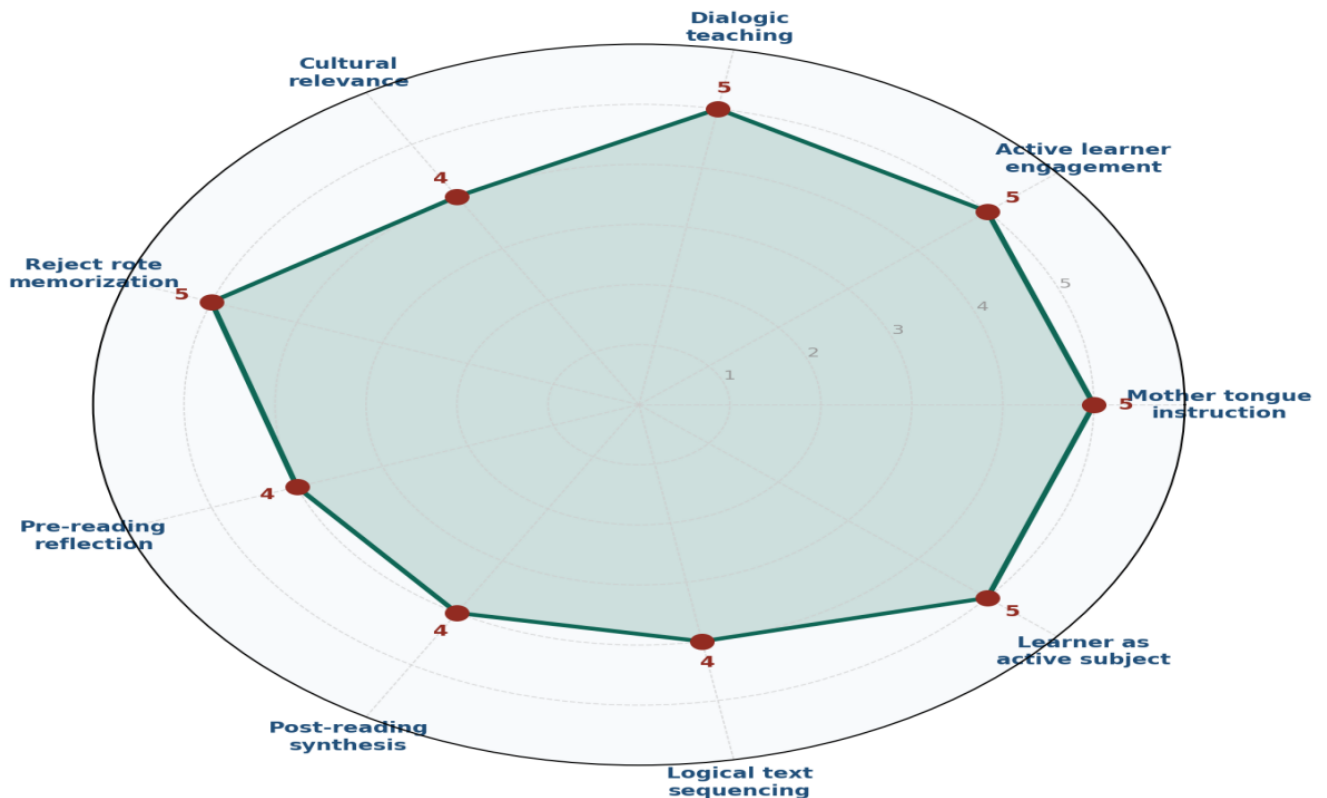


Figure 2. Pedagogical Principles: Strength of Alignment with Contemporary Educational Theory (Scale 1-5) by Valibayov.

The radar diagram shows the scores of each of the nine pedagogical principles identified by analyzing the historical practice of Valibayov (1861-1902) in terms of his alignment scores. Scoring was conducted via systematic comparative content analysis in relation to constructivist, metacognitive, and psycholinguistic frames. Mean alignment score = 4.67 / 5.00.

Figure 3. Qualitative Content Analysis: Thematic Codes and Frequency by Dimension

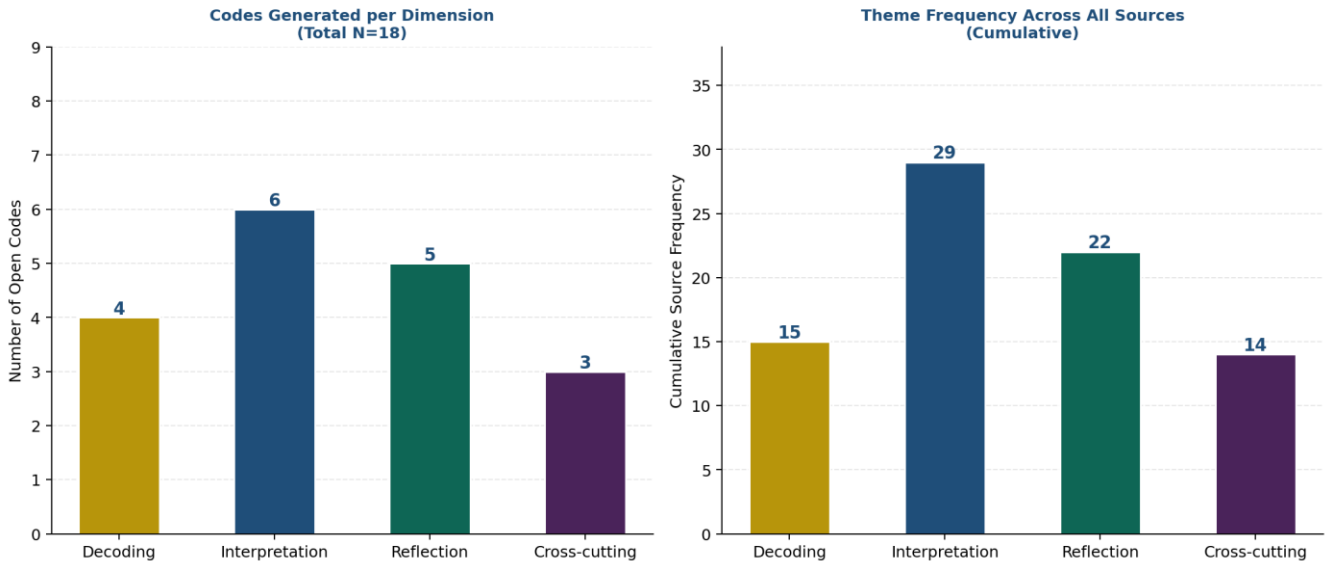
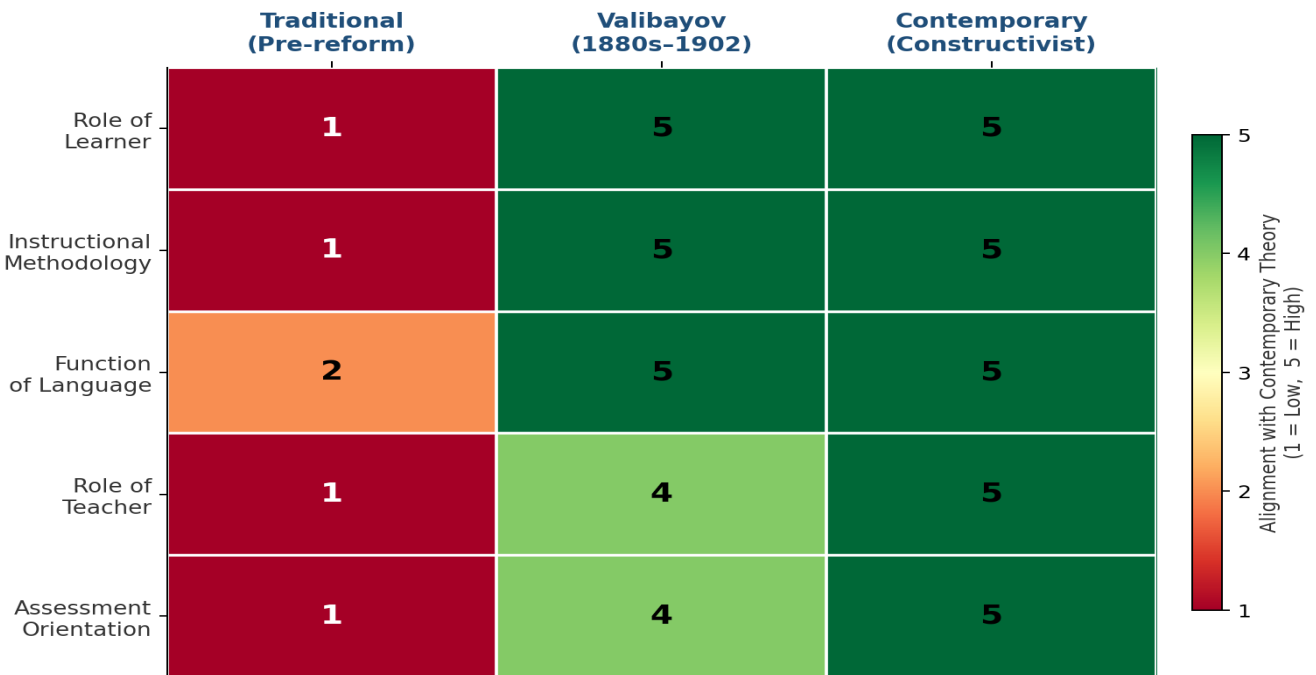


Figure 3. Qualitative Content Analysis: Open Code Generated (Left) and Cumulative Theme Frequency (Right) by Analytical Dimension.

The left panel shows the number of open codes created by each comprehension dimension (N = 18 in total). The right panel shows the cumulative frequency of the occurrence of themes in all 23 sources. The highest thematic density was on the Interpretation (n=6 codes; frequency=29) and Reflection (n=5 codes; frequency=22) dimensions.

Figure 4. Comparative Pedagogical Analysis: Alignment Matrix Traditional vs. Valibayov vs. Contemporary Constructivist Framework



Note. Scores assigned through systematic comparative content analysis. 1 = not aligned; 5 = strongly aligned.

Figure 4. Comparative Pedagogical Analysis: Alignment Matrix among three approaches and five dimensions. The heat map shows alignment scores (1 = low; 5 = high) of the Traditional (pre-reform), Valibayov (1880s-1902), and Contemporary Constructivist approaches on all five comparative dimensions. The Traditional approach has a constant score of 12, and the Valibayov approach has a constant score of 45 in all dimensions, which proves excellent agreement with modern educational systems.