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Language learning strategies: Instructional model for reading comprehension in the context of Lesson Study interdisciplinary strategy transfer

N.S. Ibadullayeva 

Nekrasov school-gymnasium №9, Turkistan, Kazakhstan

(E-mail: ibadullaevan@mail.ru)

Abstract. The paper explores methodology of teaching language learning strategies to develop a teaching structure and a model for reading comprehension to address the issue of Kazakhstani learners' reading skills in interdisciplinary context. Theoretical research methods, including analysis and synthesis, comparative analysis, structural analysis and modeling were used to develop: 1) instructional structure of think aloud modeling on summarizing strategy, 2) taxonomy of cognitive, metacognitive, social and affective reading strategies in connection with think aloud questions and self-instruction statements, 3) contextualized Lesson Study research design, 4) relationship of differentiated and critical thinking methods with language learning strategies instructions, 5) hierarchical structure of three instructional models in relationship with one another. As a result, the instructional framework and model for teaching reading comprehension in the context of subject based Lesson Study interdisciplinary strategies transfer, the principles of teaching language learning strategies were developed. The model consists of five stages: pre-diagnostic, pre-teaching strategies, intervention stage focused on multi-cyclical Lesson Study process, post-diagnostic and knowledge construction stages. The framework serves as a roadmap for teachers to realize instructional teaching focused on reading strategies in the context of cross-curricular strategies transfer. The model is crucial to explore theoretical, methodological and methodical components of language learning strategies.

Keywords: instructional model, Lesson Study, cognitive, metacognitive, social and affective strategies, interdisciplinary strategies transfer.

Introduction

According to the results of Programme for International Student Assessment 2022 (PISA) on reading literacy and competencies, Kazakhstani 15-year-old students ranked 61st out of 81 states in reading and scored less than OECD average requirements [1]. Consequently, introduced in the 2023-2024 academic year recommendations for teachers in the instructional and methodological letter “About the features of educational process in secondary education of the Republic of Kazakhstan” are formation of functional literacy in teaching subjects (reading, math, global, finance literacy, creative thinking), development of reading literacy skills in interdisciplinary context and prospects of experience and implementation of integrative approach focused on connections between different subjects and areas of knowledge [2]. In order to solve the tasks, set for public organizations (social order), it is crucial for schools to embed language learning strategies instructions (LLSI) in subject specific content curriculum for further development of learners’ cognitive, metacognitive, autonomous, self-regulated and language learning skills.

Language learning strategy (LLS) is conceptualized by Oxford R.L. as learner-centered, goal-oriented mental thoughts and specific, conscious or subconscious actions, general approaches, processes or activities, techniques or a set of interconnected procedures in action focused on instructional, self-instructional, autonomous, flexible, contextual, multifunctional, observable, non-observable and changeable language learning process that can be regulated, taught or self-taught to achieve specific learning goals [3, 4]. For example, successful task execution, reading comprehension, test taking as specific challenges of language learning are needed to be resolved with the help of suitable LLS selection, instructions and employment.

Originated in the 1970s, the term of ‘language learning strategies’ cause controversy and disagreement among contemporary theoreticians and researchers regarding LLS theorization, categorization, taxonomy, definitions, context, culture, strategies instructions, research methodology and data analysis due to misconceptions and conflicting quantitative results of strategies questionnaires [5-7]. One of the reasons for such criticism is that the process of language learning is complicated, individual, different for each learner and dependent on internal (self-reinforcement, self-talk, self-regulation) and external (teacher’s modeling, social guidance and feedback) factors. It forms as a result of personal (age, gender, motivation, beliefs, attitudes, interests and temperament), cognitive (background knowledge, learning style and language proficiency level), environmental (supportive atmosphere in family, positive learning environment in class, teacher’s reflective and constructive feedback and strategic instructional teaching quality), socio-cultural (cooperation, collaboration, interaction, relationship with institutional organizations and peers, resources and cultural norms), socio-economic and contextual (in class, outside class) factors. Continuous intensive interaction and interrelationship of these factors in integration with dynamic instructional LLS teaching in the learning environment and learner’s systematic autonomous strategies application lead to the development of self-regulated language learning governed by cognitive (mental information processing acquired through encoding, comprehending, storing, recalling and retrieving information), metacognitive (regulation and monitoring a large repertoire of cognitive

strategies) and motivational (beliefs, attitudes and self-efficacy contributing to the development of cognitive and metacognitive skills) components [8].

Despite the fact that LLSI positively affects L2 language learning proficiency, LLSI results on language skills (reading, listening, writing and speaking) are homogeneous or heterogeneous depending on multidimensional and contextual factors. The role of variables (language proficiency (beginner, intermediate, advanced), context, cognitive, metacognitive strategy types, beliefs, autonomy, strategy frequency, pronunciation) as indicators for design of effective instructional models and productive practical implementation is significant. In this context, the issues arise in terms of how to embed LLSI in curriculum, subject specific content, what method of LLSI is effective, how to design and teach strategies; embedded or separate from classroom subject, how to reinforce learners' abilities and interest to motivate them to employ strategies consciously and autonomously, how many and what types of strategies to instruct over how long a period of time in classroom environment taking into consideration learners' age, proficiency level, needs and so forth [9]. Other issues concern identification of LLS, relationship of LLS with learner characteristics, the effect of culture and context on LLS, explicit and integrated LLSI, instructional models, selection of language of instruction (L1 or L2), strategies transfer from one task to another, from one discipline to another, from L1 to L2 or vice versa. [10].

The challenges mentioned above formulate the main problem statement associated with exploring methodology of teaching LLSI: theoretical, methodological and methodical aspects based on language learning theories of cognitive psychology, key characteristic features and principles, taxonomy of LLS, instructional models and strategies transfer in subject specific interdisciplinary context.

Accentuating on the issues of how to create effective instructional model (IM) of reading comprehension, select approaches and methods of teaching strategies, and support learners' interdisciplinary strategies transfer, the relevance of the given theoretical research is theoretical, methodological and methodical investigation of LLS and LLSI models in EFL context to develop a contextualized interdisciplinary instructional model for reading comprehension focused on interdisciplinary strategies transfer.

The purpose of the article is to explore methodology of LLSI and generate research products: an interdisciplinary instructional framework, a model for teaching cognitive, metacognitive, social and affective reading strategies on the basis of multi-cyclical LS process and LLSI principles.

The main idea of theoretical exploration is to develop a specific research design of LLSI in the context of subject based Lesson Study (LS) interdisciplinary strategies transfer.

Literature review

Complexity of numerous taxonomies of LLS raises theoretical and methodological issues. Criticism has grown as a result of contradictory research findings; inconsistent LLS research methodology regarding strategy questionnaire quantitative data analyses, disagreement in conceptualization of LLS taxonomy, typology, terminology, definitions and categorization. Consequently, there is no clear consensus on concrete LLS classification theoretically justified and unanimously agreed by researchers [5-7].

Classifications of LLS:

1. LLS are categorized into: 1) strategies directly or indirectly affecting language development (learning, communication and social strategies) and 2) strategies affecting language development directly (guessing, clarification, practice, memorization, monitoring, deductive reasoning) [11];

2. LLS classified by function: cognitive, metacognitive, social and affective strategies (CMSAS) [12, 13];

3. LLS classified by language area skills: receptive (listening and reading), productive (speaking and writing), vocabulary learning, grammar and translation strategies;

4. Learner strategies classified into language learning (cognitive, metacognitive, socio-cultural and affective), language use (retrieval, rehearsal and communication strategies) and language testing strategies [14];

5. Language learning strategies and metastrategies (regulation of strategies; a new term instead of 'metacognitive strategies') developed on the basis of the self-regulated model: cognitive and metacognitive (regulation of cognitive strategies), motivational and metamotivational (managing motivational strategies), social and metasocial (control of social strategies), affective and meta-affective (regulation of affective strategies) [3].

Key principles by Ellis E.S., Deshler D.D., Lenz K., Schumaker J.B. [15]:

1. Learners should be taught to acquire and practice prerequisite skills prior to teacher's training higher order strategies because such strategies as summarizing, paraphrasing, analyzing and synthesizing are generated with the help of a cluster of multiple strategies which should be taught and practiced previously. For example, in summarizing strategy instruction learners need to be preliminary instructed such prerequisite skills as locating key words, scanning to preview the text, skimming to identify the main idea and supporting details, sequencing to line up the most important events in short, paraphrasing to restate the text information and develop personal style and sentence structure strategies to correctly structure word order and word formation within sentence structure. Such complex explicit instructional technique serves as a roadmap to effectively summarize academic text as a higher order strategy.

2. Teacher's goal setting and goal-oriented instructions should be concentrated on learners' specific content and context based goal setting, strategic determined actions, awareness of responsibility and motivation to effectively complete a task.

3. LLS should be instructed on the principles of 'from easy to difficult', 'from single to multiple strategies' and 'spiral learning'.

4. Throughout the overall instructional process implementation of continuous and repetitive verbal modeling, strategy descriptions and explanations, regular think aloud procedures, self-talks, self-instructions, generalization and systematic feedback sessions reanalyzed and reviewed in different academic contextual situations are beneficial for learners to activate cognitive information processing and store it in long-term memory.

5. Formula for success: successfully selected a set of strategies + exertion of individual effort and motivation = effective problem solution.

6. Formula for strategic teaching and performance: process (knowledge of cognitive and metacognitive strategies employment, self-regulated learning), semantic (possession of prerequisite skills and subject specific content), procedural (knowledge of how to efficiently use strategy steps and procedures, self-instruction, self-talk within think aloud method leading to self-regulation), conditional knowledge (knowledge acquisition of how to change strategy in

case it does not work, how to match or mismatch strategies to address task demand in the context of problem solving) + self-belief, self-motivation (setting goals, self-reward) = strategic learner.

1. LLS are needed to be taught based on subject specific content and task based situational context-dependent approach.

2. Focus should be on covert processing when explaining, demonstrating strategy performance through think aloud method.

3. LLS should be taught mostly explicitly and oriented to learners' awareness of conscious language learning strategies application which is of great importance to develop implicit and autonomous learning.

4. Instructions are needed to be systematic, regular, intensive, linear, non-linear, explicit and implicit texts should be challenging as problem solving component.

Methodology

The theoretical research question is formulated as a result of comprehensive literature review analysis to address Kazakhstani learners' issues in reading comprehension: How to design a specific instructional model for teaching reading comprehension strategies in the context of interdisciplinary strategies transfer?

In order to develop specific IM of reading comprehension, the author, guided by the principle of 'from general to specific', used deductive reasoning approach following such theoretical research stages: 1) employed think aloud method to demonstrate instructional modeling, 2) constructed a taxonomy of reading strategies for each strategy type in relationship with teacher's think aloud, guiding questions and self-instructional statements, 3) explored how subject based multi-cyclical LS affects learners' strategies transfer from one subject into another, 4) identified relationships of differentiated and critical thinking teaching methods with LLSI, 5) analyzed the structure of CALLA (Cognitive Academic Language Learning Approach) by Chamot A.U., Robbins J. [16], SSBI (Styles and Strategies-based Instruction) by Cohen A.D., Weaver S.J. [14], the instructional model for teaching LLS by Ellis E.S. [15] in relationship, connection, comparison and contrast with one another. Such strategic research approach contributed to constructing a detailed instructional model of reading comprehension as the final research product.

Methods

First, the sequential structure of think aloud was explored as instructional method of teaching summarizing strategy (as an example) with the purpose of integrating think aloud in the classroom context explicitly and implicitly. Think aloud is multifunctional; it can be: 1) an effective teaching method to LLS, 2) a productive research instrument to measure respondents' current application of strategy types, quality of strategy application, strategy transfer, numbers and frequency in strategy use, 3) a higher order metacognitive strategy type [17]. As modeling of summarizing strategy, the whole metacognitive process of think aloud was explicitly demonstrated by the author through self-talk and self-instruction (Let's see, the next step I need to do is...), problem solution (I am stuck here. To resolve the problem, I should....), monitoring (Whether am I right or wrong? I have to check...).

Teacher: "Ok, learners! Our task is to summarize the text. I will demonstrate how to summarize the text using the think aloud method. What do you think 'think aloud' is? Think

aloud is talking to yourself about what you are thinking while reading. The purpose of using think aloud practice is to monitor your text comprehension, to become knowledgeable and aware of multiple reading comprehension strategies, to be able to select the right strategies at the right time and to use them wisely in different situational tasks. Let me explain again what summarizing is. Summarizing is summing up by condensing information and presenting the main idea and supporting details in a short oral or written paraphrasing form.

1. The first thing I need to do is planning what strategies I will use in sequential order. In order to summarize the text, I need to ask myself: What is the text about? Who? - (subject) What? - (action) Where? - (location) When? - (time) Why? - (reason) How? (procedure) (Teacher uses questioning strategy).

2. I pay attention to the title, subtitles, pictures, the first and last paragraph of the text, underline key words and identify general text content (previewing, scanning).

3. Now, you see that I am reading aloud the paragraphs one by one. After each paragraph I stop and ask a question to myself: "Is it clear or not?" (monitoring comprehension). Is there a tricky part? Ok! It is clear. While reading the third paragraph I have a problem with unknown word (problem identification). Well, I've decided to skip it to guess the meaning of it after rereading the paragraph (skipping). I have finished reading.

4. Now it is turn to find the main idea and important supporting details (skimming) and take notes. I did it! Good job! (self-encouragement).

5. The next thing I need to do is to remove data, examples and less important details.

6. I should not forget to follow the chronological order (sequencing).

7. I think there are too many sentences. Hmmm. Let me reduce information to its key ideas through paraphrasing. Ok. I am changing the word form, word order: turn nouns into verbs or adjective, adjectives into adverbs (paraphrasing). My summarizing is ready. ...Dear learners! While summarizing I have used multiple strategies such as previewing, scanning, monitoring comprehension, skipping, note taking, self-encouragement, sequencing, paraphrasing. They were instructed to you and practiced during the lessons. Today I've used them as a cluster of strategies to achieve the task goal".

Analysis and synthesis theoretical research method was used to develop taxonomy of reading comprehension strategies, adapted from Oxford, R.L. [12], O'malley J.M., Chamot A.U. [13]. Think aloud guiding questions were developed related to each strategy type (Table 1). As analysis, the taxonomy was broken into categories, strategy types, definitions, whereas synthesis was obtained through combining analyzed components into argumentative concept.

Table 1

Taxonomy of reading comprehension strategies in connection with teacher's instruction statements and guiding think aloud questions

Types of strategies	Definition of each strategy type	Teacher's think aloud questions addressed to learners' reading comprehension and self-instruction statements
Cognitive strategies		
rereading	Reading the paragraph twice or more times to comprehend it deeply	Is it clear here or will you read the paragraph again?

activating background knowledge	Making connection between new information and background knowledge stored in memory as schema	What do you already know about the topic before reading the text? What key words might appear in the text? Why? Have you ever had prior experience relevant to the topic?
predicting	Making predictions about the text before, within paragraphs and after reading focused on background knowledge	What do you think the next paragraph is about? Teacher's self-instruction: I predict... I think this is...
previewing	Skim, scan text content before reading the text to decide whether the text is relevant to your purpose or not. For example, selection of proper information from articles through previewing for literature review of your article.	Have you previewed the text; looked at the title, subtitle, caption, heading, the first and last paragraphs, charts, pictures and new vocabulary? Why?
questioning	Asking questions to clarify the text content and meaning before, while and after reading	Why did...? What did...? How did...? Where was...? Should there...?
visualizing	Visualizing pictures, images, events in mind while reading to memorize better and keep them in long term memory	Have you pictured the people, places, events being described in the text? What kind of...? Teacher: I picture...
skimming	Defining the main idea of the text through quick reading	Have you looked through the text (title, subtitles, introduction, conclusion, charts, graphs and key words) to find the general idea?
scanning	Quick searching and finding specific details (numbers, definitions, dates) relevant to the text-based task requirement	Have you moved your eyes quickly to find the answer to the question according to the text?
analyzing and synthesizing	Analyzing is breaking down the text into structures or components, whereas synthesizing is bringing separate components into one to form a new idea	It is cool if I integrate analyzing and synthesizing strategy with 'six thinking hats' method. First, I.....
summarizing	Summing up the text is identifying the main idea and important supporting details	The text is about I think this is mainly about...The most important idea is...
paraphrasing	Restating in your own words the text or text paragraphs to clarify what has happened	Can you restate the paragraph what you have just read to make sure of what you have understood?

making connections	Making text-to-text, text-to-self, text-to-world connections while reading	Have you made connections to other texts, your life or the world while reading or after reading?
resourcing	Searching for a wide range of printed and multimedia resources with the purpose of problem solution, deep text comprehension	Have you searched for information from internet or encyclopedia when you do not understand a term or text content or context?
Metacognitive strategies		
planning	Setting goals, making decision what set of strategies to use to accomplish the task successfully	Have you planned steps of your actions before reading? What kind of strategies have you chosen?
self-monitoring	Checking one's comprehension by pausing, thinking aloud and asking questions while reading.	Have you paused after each paragraph and try to understand it? Does it make sense?
self-questioning	Putting questions to oneself to comprehend the content before, during and after reading text paragraphs	What do you think what you have predicted will happen next?
self-evaluating	Assessing oneself how well he or she accomplished the task	Congratulations! I have done a good job!
problem identification	Identifying problems while reading	I am a little bit confused about ... I'm not sure of... I need to go back and reread the paragraph.
Social strategies		
questioning for clarification	Putting questions for correction, clarification, verification and correction	Teacher: What do you mean by saying that?
cooperation	Collaborating with classmates, teachers, peers and others	Teacher: Interact in small groups to find similarities and differences using Venn diagram.
Affective strategies		
self-talk	Talking to oneself to monitor comprehension	Ok. I need to skip the meaning of the unknown word and go on reading.
self-encouragement	Encouraging oneself by positive reading attitudes, self-support, self-reward and wise risk-taking	Do not be afraid of mistakes! Keep on going! I can do it!
taking your emotional temperature	Measuring one's feelings with the aim of preventing oneself from negative emotions.	Teacher: Listen to your body, share your feelings and emotions with peers or close friends.

Source: adapted from Oxford, R.L. [12], O'malley J.M., Chamot A.U. [13]

To include interdisciplinary strategies transfer in the instructional model, the author used design based research method to adapt LS process proposed by Dudley P. [18]. As a result of LS practical research process focused on reading comprehension, conducted in grade 5 in the 2022 academic year, the multi-cyclical contextualized model was constructed by the author in the context of Kazakhstani teachers' problem-solution strategy. In fact, LS team teachers faced problems with anticipation of learners' task responses and ABC case learners' (high (A), middle (B) and low level (C)) observation analyses so these LS components were derived as separate steps from 'jointly planning' LS step. To make observation more concrete, criteria (cognitive, affective, interpersonal and strategies transfer) and video observation were included. Instead of Dudley's 4 steps, the model involved 6 steps within each LS cycle: 1) designing LS, 2) anticipation of ABC case learners' task responses, 3) teaching and video observing LS in class, 4) interviewing ABC case learners immediately after LS, 5) ABC case learners' video observation analysis: transcribing, coding, categorizing and knowledge constructing, 6) post LS discussion and reflection (Figure1). In order to explore interdisciplinary strategies transfer, reading comprehension strategies were taught, practiced and transferred from English (LS1 cycle) to Russian (LS cycle 2), from Russian to History (LS cycle 3), from History to English (LS cycle 4), from English to English (LS cycle 5).

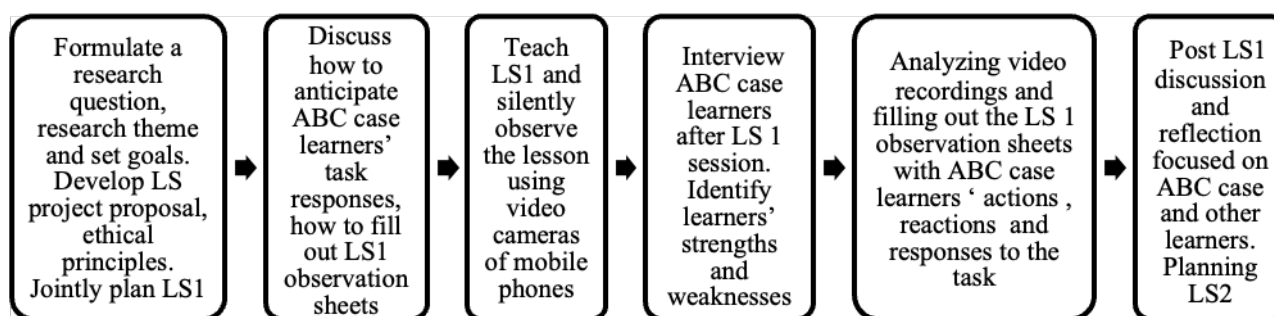


Figure 1. One cycle of contextualized Lesson Study model

Source: adapted from Dudley P. [18]

Relationship of differentiated (teaching diverse learners) and critical thinking (cognition) methods with LLSI was theoretically and practically explored by the author based on LS process carried out in practice. Identification of similarities and differences required in Venn diagram is similar to cognitive reading strategy of 'comparison and contrast' used in informative text structure. 'Six thinking hats', 'Mind map' critical thinking strategies are coordinated with analyzing and synthesizing strategy, 'Brainstorm' is related to activating background strategy. For example, during LS process, according to Venn diagram training, learners were repeatedly taught in Russian (class with Russian language teaching in which most of learners' nationalities are Uzbek) how to use multiple reading strategies (planning, rereading, scanning, grouping, self-questioning, monitoring and resourcing) to organize the diagram graphically. Differentiated ABC small groups were created to use zone of proximal development. LLS employment related

to Venn diagram was repeatedly practiced and transferred from History (LS3) into English (LS4) by learners with different contextual tasks.

Structural analysis of three instructional models in relationship with one another was employed to define hierarchical representation of stages and elicit their functions, corresponding connections within stages of each model and between models (Table 2). Comparative method was used to find similarities and differences of the models.

Table 2
CALLA, SSBI and IM models for teaching language learning strategies

CALLA model	SSBI model	IM for teaching learning strategies
Preparation: identification of learners' current strategies	Preparation: identification of learners' current strategies and learner styles	1. Making orientation and taking pretest. 2. Awareness and responsibility. Teacher identifies learning issues, motivates learners to become aware of their difficulties
Presentation	Explicit awareness-raising	Description, group discussion and modeling
Practice of authentic content tasks and hands-on activities	Strategy instruction through self-talk, self-direction and self-observation	Learners' verbal practice as demonstrators Controlled, guided, free practice and feedback on modeling
Self-evaluation and reflection	Explicit practice: planning, monitoring and evaluation	Advanced practice and feedback 1. Making orientation and overview 2. Guided practice 3. Independent practice
Expansion and transfer of strategies to contextual situations	Personalization and strategies transfer	Taking posttest and making commitments 1. Confirmation of success 2. Prognosis and taking initial steps towards generalization
Assessment		Generalization

Source: adapted from Chamot A.U., Robbins J. [16], Cohen A.D., Weaver S. J. [14], Ellis E.S., Deshler D.D., Lenz K., Schumaker J.B. [15].

Results and discussion

To respond to the research question, a specific instructional framework and IM for teaching reading strategies in interdisciplinary EFL context was developed. Interdisciplinary feature of the model is focused on multi-cyclical subject based LS process, in which CMSAS instructions and employment move from one cycle into another through transferring strategies from one subject into another. The model consists of 5 stages (pre-diagnostic and preparation, pre-teaching, intervention accompanied with multiple LS cycles, post-diagnostic and knowledge construction). Each LS cycle includes 6 steps associated with planning the research lesson (LS), anticipating ABC learners' strategies application, teaching and video observing LS, interviewing ABC learner, analyses of video observations and ABC case learners' interviews and post LS discussion (Table 3).

Table 3

Instructional framework for reading comprehension in the context of Lesson Study interdisciplinary strategies transfer

Stages/steps	LS team teachers' actions
Pre-diagnostic and preparation stage	
Preliminary strategic actions	Teachers build LS team (3-6 teachers), study literature review on LLSI, reading comprehension strategies, think aloud, subject based LS process, select a study group as research participants for subject based LS research process (for example, 3 team teachers teaching English, Russian and History in the grade 5 develop research background and research issue.
Ethical principles	Teachers obtain permission from students and headmaster for conducting LS process; prepare such documents as a student consent form and a principal consent form thus develop ethical principles of honesty and confidentiality.
Pre-diagnostic stage: formulation of research goal, objectives and research question	English teacher takes reading comprehension test on the subject of English, strategies questionnaire and interview from learners. As a result of comparative data analysis of three research instruments, team teachers discuss data analysis and identify learners' current strategies use, issues in reading comprehension. Team teachers formulate a research theme, goal, objectives and research question. For example, 'How to improve 11-12-year-old learners' reading comprehension in English through interdisciplinary (English, Russian, History) cognitive and metacognitive reading strategies instruction and transfer?'
Teacher-learner interactive discussion: error correction analysis	Based on pre-test data results, English teacher informs learners of their actual strategies use, accentuates learners' attention to errors, explains about the value of reading strategies to address reading comprehension challenges, models think aloud, demonstrates as a learner how their errors could be corrected when inappropriate strategy was replaced with effective one, analyzes learners' strengths and weaknesses based on pre-test results. Strategy based goals are set independently by each learner.
Construction of instructional plan	Team teachers develop: 1) taxonomy of reading strategies, 2) vocabulary learning strategies profile, 3) resource materials on teaching think aloud, differentiated and critical thinking methods.
Construction of data collection plan	Teachers develop a plane of data collection and analyses of pre-test and post-test research methods (test, questionnaire, interview), research instruments collected and analyzed during intervention stage (LS observation, interview sheets, mini-tests on English, Russian, History taken after each cycle, reflective journals, students' work, photos, video recordings of LS and ABC case learners' interviews)
Pre-teaching stage: Acquisition of learners' prerequisite skills of cognitive, metacognitive, social and affective reading strategies	
Planning and pre-teaching reading strategies	Subject teachers discuss about what CMSAS to demonstrate at their lessons. They start modeling, teaching and practicing strategies with learners at their everyday lessons before conducting LS1 as pre-requisite skills. Teachers use models of 'think aloud', 'gradual release of responsibility' and 'metacognition' in combination.
Presentation of knowledge	Teachers introduce strategies, explain what the names of strategies (declarative) are, how they are used in a sequence (procedural) and when and where they

of condition: declarative, procedural and conditional knowledge	are selected, matched or mismatched and replaced with others (conditional) to successfully execute the task. First, teachers explain and describe how to use a single strategy, then a set of suitable reading strategies to perform the task. Teachers describe strategy steps with self-instruction and self-talk, discuss about the benefits of strategies application as problem solving tool to build learners' responsibility awareness.
Explicit modeling based on text and text based task (a number of lessons) Reflection, feedback and assessment	Focused on subject specific content, teachers set a new topic goal, explicitly model strategies through think aloud accompanied with self-talk, self-instruction, self-monitoring, self-observation, self-correction, self-reflection and self-evaluation. At the first and second lessons, teachers demonstrate and discuss strategy name, short description, explanation of its procedure, connection of one strategy with another. At the third and fourth lessons, teachers explain how to do the task with a set of efficient cognitive strategies regulated by N. J. Anderson's metacognitive instructional model with the steps followed in sequence: preparation and planning, selection of strategies and their practical implementation, monitoring comprehension, orchestrating multiple strategies, assessment of strategies employment [19].
Focused, guided, collaborative and free practice	Teachers guide learners' task accomplishment and consolidation with the help of robust, instruction checking and concept checking questions, use 'gradual release of responsibility' (GRR) based on the steps: 'Teacher thinks aloud', 'Teacher and learners do it together', 'Learners do it together', 'Each learner does it alone' [20].
Discussion: feedback, error correction	Teachers conduct interactive dialogues and collaborative discussions directing from teacher-centered to learner corrective feedback, teacher's talk, instruction to learners' self-talk and self-instruction, teacher's error correction to learners' self-correction.
Intervention stage: LS1 cycle	
Step1. Designing LS 1 focused on teaching and practicing reading strategies	
Deep research into instructional strategies	Teachers deeply study curriculum, subject content, review numerous literature sources on teaching reading strategies, select tasks, teaching methods, and create a LS plan template addressed lesson objectives and research question.
Selecting case learners	Team teachers as observers choose ABC case learners, explore their learner characteristics.
Text comprehension and text based task design for LS1	In correspondence with the lesson goal, teachers select the text and task difficult for learners to reinforce learners' think aloud process, select what cognitive and metacognitive strategies to use to achieve the task goal, design how to organize lesson activities, the whole classroom discussions guided with differentiated instructions at desk and blackboard. Teachers use differentiated and critical thinking methods with the help of controlled, guided and free practice.
Step 2. Anticipation of ABC case learners' reading strategies use and task responses relevant to the text comprehension and text based task	
Developing ABC case learners' observation and interview sheets	Teachers as A, B and C learners do the selected task. Thus they anticipate learners' strategies preference, performance regarding task execution in order to compare their prognoses with learners' actual strategies use during LS1. Teachers record predictions in their observation sheets, generate interview questions. Criteria for learners' observation during the lesson and interview immediately after the lesson are focus on learners' cognitive, metacognitive, social and affective actions, behaviors and emotions.

Step 3. Teaching and video observing LS1 in English	
LS1: relationship of reading strategies with critical thinking and differentiated methods	Teacher conducts LS1, demonstrates an integrative modeling of reading strategies instruction according to the text based task. Learners in small differentiated ABC groups do another task integrating reading strategies with critical thinking method. For example, thin and thick Bloom's taxonomy questions of critical thinking method can be in alignment with 'question generating' and 'self-questioning' strategies. Teacher uses GRR and metacognitive instructional frameworks during controlled and guided practice phases. Teacher monitors, moves around the classroom, scaffolds those in need.
LS1: Discussion: feedback, error correction	Teacher conducts interactive dialogue and collaborative discussion leading from teacher-centered to learner corrective feedback, teacher's talk, instruction to learners' self-talk and self-instruction. Teacher gives feedback, assessment and homework as free practice.
Observers' learners' observations	Teacher-observers silently videotape their own ABC case learners' strategies applications, strategic actions, interactions, behaviors, strengths, weaknesses and responses to the task.
Step 4. Interviewing ABC case students immediately after LS1	
Interviewing	Each observer interviews his or her ABC case learners following the semi-structured questions.
Step 5. ABC case learners' video observation and interview analyses	
Video observation and interview analyses	A day is given to observers to watch, transcribe, code, categorize and analyze their ABC case learners' cognitive, metacognitive, social and affective strategies use through recorded video observation and interview.
Step 6. Post LS discussion, reflection and evaluation	
Post LS1 discussion, reflection and evaluation	First, subject teacher gives comments on LS1 and then observers discuss ABC learners' actions, strengths and weaknesses, compare their anticipated and learners' actual strategic task responses, behaviors, CMSAS use, raise issues to address at the next LS2. They think about how to transfer strategies from LS cycle 1 to LS cycle 2.
Experts' advice	Experts give comments on how to improve learners' reading skills through effective design of research lessons.
Iteration of LS cycles in the context of interdisciplinary strategies transfer	
Cycles are needed to be iterated from one subject into another. For example, LS1-English; LS2-Russian; LS3-History LS4-English LS5-English. When moving from one cycle into another, strategies should be repeatedly taught and practiced following the principles of 'from easy to difficult', 'from single to a cluster of strategies use' and 'spiral learning'.	
Post-test	After completion of all LS cycles teacher takes reading comprehension test in English, strategies questionnaire and interview from learners and analyzes the data.
Pre-test and post-test analyses	Team teachers compare data analyses of pre-test, while-test and post-test results and triangulate research findings.
Knowledge construction stage	
Knowledge generation	Teachers construct new knowledge about LLSI focused on qualitative and quantitative data analyses.

Source: adapted from Cohen A.D., Weaver S.J. [14], Ellis E.S., Deshler D.D., Lenz K., Schumaker J.B. [15], Chamot A.U., Robbins J. [16] and Dudley P. [18], Anderson N.J. [19], Fisher D., Frey N. [20].

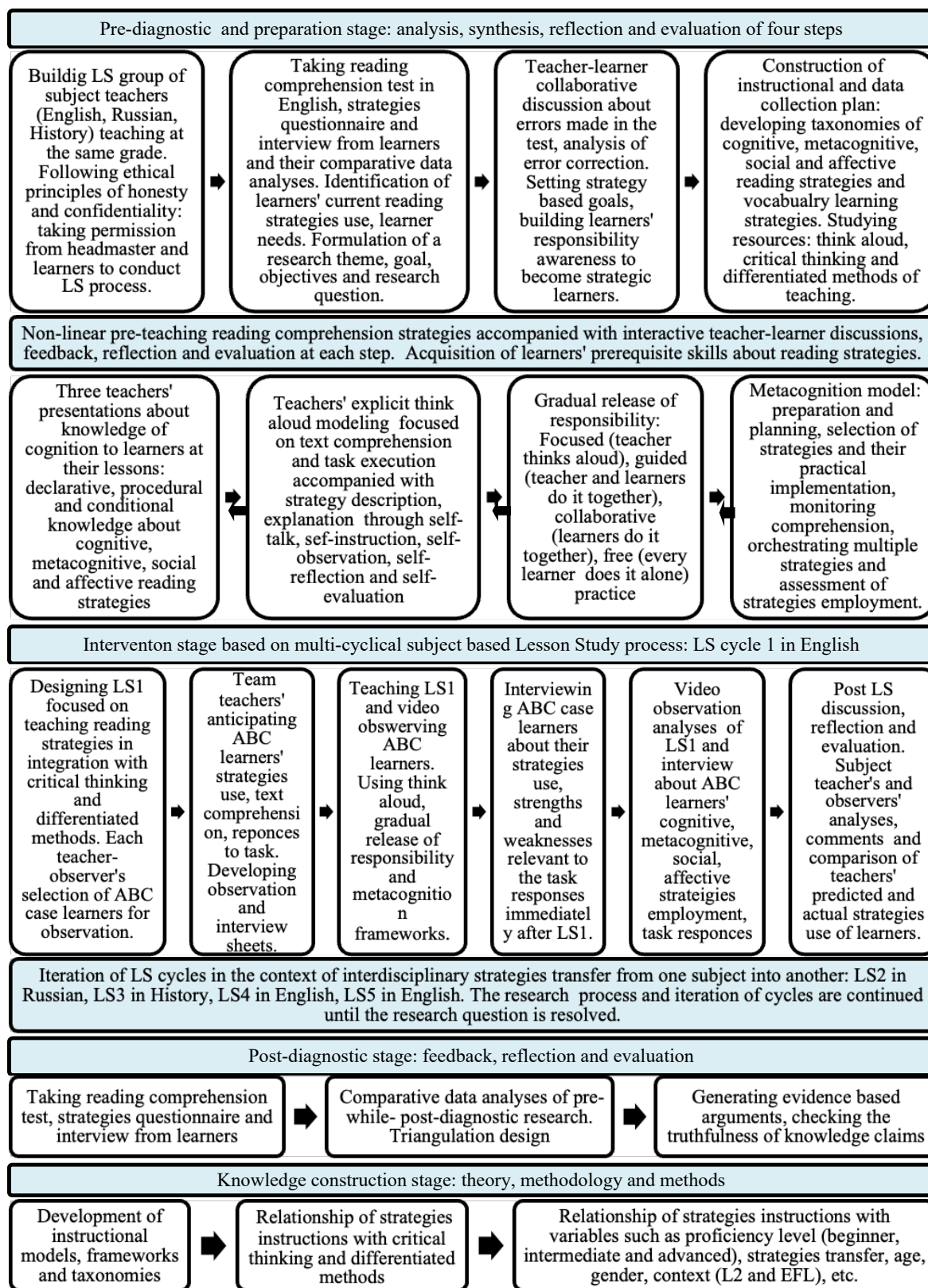


Figure 2. Instructional model for teaching reading comprehension focused on subject based multi-cyclical Lesson Study interdisciplinary strategies transfer

The specific instructional model for teaching reading comprehension strategies in the context of interdisciplinary strategies transfer was constructed based on contextualized multi-cyclical LS process with great emphasis on teachers' think aloud instructions, learners' reading strategies employment and strategies transfer from one LS cycle to another (Figure 2). Since reading strategies should be instructed, practiced and transferred over a long period of time to help learners become strategic, autonomous and self-regulated, the model is developed on the basis of multi-cyclic LS process. Inclusion of 5 stages (pre-diagnostic and preparation, pre-teaching, intervention accompanied with multiple LS cycles, post-diagnostic and knowledge construction) in the model contributes to generating comprehensive and structuralized LLSI model with the help of which theoretically justified knowledge about learners' strategic performance is created as a result of research practice. Inclusion of one LS cycle with contextualized 6 LS steps is significant to conduct repeatedly as multiple cycles in order to construct evidence-based theories from long term systematic practice-based research. This argument indicates positive influence of long-term strategy training [21]. Pjanić K. [22] highlights the importance of long lasting Japanese LS process to generate theoretical teaching approaches such as structured problem solving and learning how to learn. Multi-cyclical feature of the LS model is also in alignment with plan-do-check-act JLS model emphasized with implementation of iterative cycles with the purpose of generating theory-based knowledge [23].

Basic characteristic features of the model are similar to CALLA, SSBI and Ellis's IM characterized with: 1) learner responsibility awareness and motivation, 2) identification of learners' current strategies employment and learner needs at the beginning of instruction, 3) inclusion of GRR in instructional framework, modeling of strategies based on the principle of 'from easy to difficult' when instructing strategies explicitly, 4) interconnection between content-curriculum-concept-context in alignment with task demands, 5) teacher-learner interactive, cooperative dialogues and discussions about learners' strategies choice, performance, reflection and evaluation, 6) learners' transfer of strategies employed according to task requirements, 7) systematic teacher feedback, reflection and evaluation, 8) the importance of instructions focused on the reinforcing learners' metacognitive awareness and accountability through modeling, demonstrations, explanations and descriptions, 9) multiple practice of strategies to make learners autonomous and strategic. As for differences, the given model focuses on improvement of specific skill (reading) to develop reading comprehension and transferable skills through multi-cyclic LS process. Four categories of cognitive, metacognitive, social and affective strategies, systematically instructed by teachers in interrelation with one another enhance learner's critical (cognitive) thinking, self-regulated learning (metacognitive), interpersonal (social) skills and emotional intelligence focused on motivation, self-reinforcement and self-efficacy (affective). This argument is consistent with that of Oxford R.L. who argues the significance of employing 4 types of strategies combined with one another in classroom environment to develop learner autonomy. Involvement of differentiated instructions in the model emphasizes the importance of identification of learner needs, learning styles, goals, interests and strategy preferences in the classroom and design instructions by differentiating learners' language proficiency level and strategies knowledge

and use [3]. Integration of critical thinking method of teaching in LLSI is confirmed with the fact that the process of critical thinking is connected to cognition [8].

Analysis and synthesis of the instructional model and framework contributed to developing principles of LLSI: 1) principle of relationship of goal orientation and responsibility awareness with consciousness: learners set a strategic goal and use strategies consciously to achieve the goal, 2) transferability: strategies transfer from one task to another, from one subject to another, from L2 to L1 or vice versa, from classroom to everyday life, 3) differentiation: instructions should be differentiated according to learners' needs, learner characteristics, strategy goals, choice, age, socio-cultural domain and language proficiency level, 4) in classroom context specific LLSI should be integrated in appropriate methods of teaching (critical thinking, differentiated, project based) to raise learners' interest, 5) combined teaching of cognitive, metacognitive, social and affective strategies in relationship with one another since in classroom environment teachers should instruct learners to process information cognitively, think about their learning, interact with one another, 5) integration of LLSI in teaching methods: strategies are taught and practiced better in case they are combined with teaching methods. These principles raise learners' independent and conscious learning, self-regulation and self-efficacy beliefs.

Conclusions

To address the issue of Kazakhstani learners' reading comprehension and the recommendation letter for secondary education indicating the benefits of cross-curricular integrated teaching, the instructional model for teaching reading comprehension strategies was developed based on contextualized subject based multi-cyclical LS process. The model is complex but significant to be realized in long term practice. First, pre-test, pre-teaching, instructional intervention (multiple LS cycles), post-test and knowledge construction stages lead to theoretically justified knowledge generation about LLSI and learners' strategic performance. Second, LLSI on the basis of subject based multi-cyclic LS process allow learners to transfer reading comprehension strategies from one subject into another which is effective for better strategic text comprehension and flexible strategies transfer. Third, integrated instructional teaching of cognitive and metacognitive strategies with social and affective ones develops learners' successful strategic language learning acquisition, ability to select and orchestrate proper strategies from multiple ones relevant to task demands. Fourth, inclusion of think aloud, critical thinking and differentiated methods of teaching in the model contributes to learners' efficient monitoring comprehension, cognitive information processing and personalizing strategies according to learner needs, styles, goals and strategy preferences. The model can be implemented for future research as practical guidance to develop innovative instructional approaches towards reading comprehension focused on cognitive, metacognitive, social and affective strategies performance and strategies transfer.

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Н.С. Ибадуллаева

Некрасов атындағы №9 мектеп-гимназия, Түркістан, Қазақстан

Тіл үйрену стратегиялары: Lesson Study үдерісі негізінде стратегиялардың пәнаралық тасымалдануы контекстіндегі түсініп оқуды оқыту моделі

Аңдатпа. Мақалада пәнаралық контексте қазақстандық оқушылардың оқу дағдыларын дамыту мәселесін шешу үшін тіл үйрену стратегияларын оқыту әдіснамасын зерделей келе түсініп оқуды оқыту құрылымы мен моделін әзірлеу жұмысы қарастырылған. Талдау және синтездеу, салыстырмалы талдау, құрылымдық талдау және модельдеу теориялық зерттеу әдістерін қолдана отырып: 1) «жалпылау» стратегиясын модельдеуге арналған «дауыспен ойла» әдісінің нұсқау құрылымы, 2) өзін-өзі оқыту контекстіндегі сұрақтар мен мәлімдемелерден құралған танымдық, метатанымдық, әлеуметтік және аффективті оқу стратегиялары таксономиясы, 3) пәнаралық сабақты зерттеу (Lesson Study) дизайны, 4) саралап және сыни тұрғыдан ойлау әдістерінің тілдік стратегияларды оқытумен өзара байланысы, 5) теоретиктердің үш оқыту модельдерінің бір-бірімен өзара байланысқан иерархиялық құрылымы зерттелінді. Нәтижесінде пәнаралық сабақты зерттеу үдерісі аясында түсініп оқуды оқытудың кешенді құрылымы мен моделі құрастырылды. Сондай-ақ тіл үйрену стратегияларын оқытудың принциптері әзірленді. Модель бес кезеңнен тұрады: алдын ала диагностика, зерттеу алдында стратегияларды оқыту, көп циклді пәнаралық сабақты зерттеу кезеңі, диагностикадан кейінгі кезең және жаңа білімді қалыптастыру. Түсініп оқуды оқыту құрылымы пәнаралық контекстінде оқу стратегияларын сапалы оқытуға бағытталған нұсқау ретінде мұғалімдерге қызмет етуі әбден мүмкін. Модель тіл үйрену стратегияларының теориялық, әдіснамалық, әдістемелік компоненттерін зерттеу үшін маңызды.

Түйін сөздер: оқыту моделі, сабақты зерттеу, когнитивтік, метакогнитивтік, әлеуметтік және аффективті стратегиялар, стратегияларды пәнаралық байланыс арқылы тасымалдау.

Н.С. Ибадуллаева

Школа-гимназия №9 имени Некрасова, Туркестан, Казахстан

Стратегии изучения языка: модель обучения для формирования смыслового чтения в контексте междисциплинарного переноса стратегий по подходу Lesson Study

Аннотация. В статье исследуется методология преподавания стратегий изучения языка для разработки структуры обучения и модели смыслового понимания чтения с целью решения проблемы навыков чтения казахстанских учащихся в междисциплинарном контексте. Теоретические методы исследования, такие, как анализ и синтез, сравнительный анализ, структурный анализ и моделирование были использованы для разработки и анализа: 1) структуры метода «размышление вслух» через моделирование стратегии «обобщение», 2) таксономии когнитивных, метакогнитивных, социальных и аффективных стратегий чтения с последующими вопросами и утверждениями в контексте самообучения, 3) контекстуального дизайна исследования Lesson Study, 4) взаимосвязи методов дифференцированного и критического мышления обучения учащихся языковым стратегиям, 5) иерархической структуры трех учебных моделей теоретиков во взаимосвязи друг с другом. В результате были разработаны комплексная структура и модель обучения в процессе понимания смыслового чтения и выполнения заданий по тексту в контексте передачи междисциплинарных стратегий предметного исследования уроков. Также были разработаны принципы преподавания стратегий изучения языка. Модель состоит из пяти этапов: предварительная диагностика, предварительное обучение стратегиям, этап вмешательства, ориентированный на многоцикловый процесс исследования по Lesson Study, этапы постдиагностики и генерирование знаний. Структура обучения стратегиям служит для учителей дорожной картой для реализации учебного обучения, ориентированного на стратегии чтения в контексте переноса междисциплинарных стратегий. Модель имеет решающее значение для изучения теоретических, методологических и методических компонентов стратегий изучения языка.

Ключевые слова: модель обучения, исследование урока, когнитивные, метакогнитивные, социальные и аффективные стратегии, межпредметный перенос стратегий.

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Information about authors:

N.S. Ibadullayeva – Master of Pedagogical Sciences, teacher-researcher, English teacher, No. 9 Nekrasov school-gymnasium, 75A Kh.Niyazi Street, 161200, Turkistan, Kazakhstan.

Авторлар туралы мәлімет:

Н.С. Ибадуллаева – педагогика ғылымдарының магистрі, педагог-зерттеуші, ағылшын тілі пәні мұғалімі, Некрасов атындағы №9 мектеп-гимназиясы, Х.Ниязи көшесі №75/А, 161200, Түркістан, Қазақстан.

Информация об авторах:

Н.С. Ибадуллаева – магистр педагогических наук, педагог-исследователь, учитель английского языка, школа-гимназия №9 имени Некрасова, ул. Х.Ниязи, 75А, 161200, Туркестан, Казахстан.