Registered in Germany Europa Revue Journal
ISSN: 1862-6564 Vol. 6 No. 3 (2026) Published March 31, 2026

A SELF-PREPARATION-BASED 4C-INTEGRATIVE METHOD (SPB-4C) FOR DEVELOPING ENGLISH TEACHERS' 4C SKILLS IN CONTINUOUS PROFESSIONAL DEVELOPMENT COURSES: DESIGN, THEORETICAL RATIONALE AND PRELIMINARY EVIDENCE

Raximidinova Gulbodom Ibrohimjon qizi

Abdulla Avloniy National Institute of Pedagogical Excellence, Tashkent, Uzbekistan

E-mail:gulbadamtoirova@gmail.com | ORCID: 0009-0009-1848-7930

Abstract

Continuous professional development (CPD) courses for English language teachers still rely heavily on lecture-based delivery, which gives trainees limited opportunity to practise the critical thinking, creativity, collaboration and communication (4C) skills that they are expected to develop in their own learners. This article presents the Self-Preparation-Based 4C-Integrative Method (MTA-4K), a six-stage instructional method for CPD courses, and reports preliminary evidence on its functioning. The method is grounded in experiential learning, reflective practice, the flipped-classroom logic, cooperative learning and formative feedback theory. Using a developmental design with descriptive quantitative analysis, we examined (a) how 4C skills are distributed across the stages of the overall methodology, (b) how the four skills are distributed across the six MTA-4K stages, and (c) how trainees' 4C development changed over six course modules according to three monitoring sources: a trainer observation sheet, a reflective diary and a professional portfolio. The 4C skills were applied most intensively at the practical (81%) and diagnostic (79%) stages and least at the reflective stage (46%). Critical thinking (42.9%) and communication (35.7%) dominated the six-stage structure. Over six modules, indicators rose from 45% to 88% (observation sheet), from 38% to 84% (reflective diary) and from 35% to 90% (portfolio). The results suggest that MTA-4K is a feasible mechanism for developing teachers' own 4C competence, although the reflective stage needs strengthening and a controlled evaluation is required to establish causal effects.

Keywords

English language teachers; continuous professional development; 4C skills; critical thinking; creativity; collaboration; communication; flipped learning; teacher training method.

1. Introduction

Education systems worldwide are redefining what graduates need to know and be able to do. Comparative analyses of international frameworks show that knowledge of a subject is no longer sufficient on its own; learners are also expected to think analytically, solve complex problems, create new ideas, learn actively and work productively with others (Voogt & Roblin, 2012; Trilling & Fadel, 2009; OECD, 2018). The "4C" model — critical thinking, creativity, collaboration and communication — has become a widely used shorthand for this group of competences (Partnership for 21st Century Learning [P21], 2019). Its practical value is that it can be translated into concrete classroom tasks and assessment criteria, which is why it has been adopted in national curriculum reforms, including the current reforms of general secondary education in Uzbekistan.

A competence-oriented curriculum, however, can only be as effective as the teachers who implement it. A teacher who has never experienced analytical, creative, collaborative and communicative learning is unlikely to organise it convincingly for pupils. For English language teachers the issue is especially acute, because their subject is itself a medium of communication and their lessons offer natural opportunities for discussion, role play, problem solving and project work. Studies of 4C development in language classrooms confirm that these skills are formed through active speaking, discussion and task-based work rather than through the transmission of theoretical knowledge alone (Rusdin & Ali, 2019). Research from the Uzbek context has so far concentrated mainly on pupils: methods for developing 4C skills in primary English lessons through speaking activities (Kurbanbayev, 2025), in mother-tongue and reading-literacy lessons (Jo'rayeva, 2025), and guidance on forming and assessing 4C competences for primary teachers (Ismailov et al., 2024). Work on the integration of the 4C model into the professional training of foreign language teachers also exists (Salybekova et al., 2023), but there is still little methodological research on how the 4C

skills of in-service English teachers can be developed within CPD courses, and what a course must look like for this to happen.

This gap matters because the typical CPD course is still organised around lectures and note-taking, with certification as its main product. Such a format positions trainees as passive recipients and leaves 4C skills to develop incidentally. Effective professional development, by contrast, is characterised by active learning, collaboration, modelling of effective practice, coaching and feedback, and sustained reflection (Darling-Hammond et al., 2017; Richards & Farrell, 2005). The challenge is therefore to translate these general principles into a concrete, replicable instructional method for English teachers' CPD courses.

The aim of this article is to present such a method — the Self-Preparation-Based 4C-Integrative Method (MTA-4K; the abbreviation comes from the Uzbek name *Mustaqil tayyorgarlikka asoslangan 4K-integrativ ta'lim metodi*) — and to report preliminary evidence on how it functions. The study addresses three research questions:

RQ1. What theoretical foundations and structure underlie a CPD method designed to develop English teachers' 4C skills?

RQ2. How are the four skills distributed across the stages of the overall methodology and across the six stages of MTA-4K?

RQ3. How does the level of trainees' 4C development change over six course modules, as recorded by three complementary monitoring sources?

1.1. Theoretical background

MTA-4K draws on five bodies of theory. First, Dewey (1933) argued that knowledge arises not from passive reception of information but from active experience, confrontation with problematic situations and the reflective analysis of that experience. Kolb's (1984) experiential learning cycle — concrete experience, reflective observation, abstract conceptualisation and active experimentation — provides a ready template for a staged course design. Schön's (1983) notion of the reflective practitioner and Richards and Farrell's (2005) work on language teacher development extend this logic to teachers' professional learning.

Second, the flipped-classroom idea shifts first contact with new content outside the classroom, so that scheduled time can be devoted to discussion, analysis and application. Advance preparation is also consistent with cognitive load theory, which holds that reducing the load placed on working memory during complex tasks helps learners integrate new information into existing knowledge structures (Sweller, 1988). Third, cooperative learning theory identifies positive interdependence, individual accountability, face-to-face interaction, social skills and group processing as the conditions under which group work produces learning gains (Johnson & Johnson, 2009). Fourth, work on critical thinking conceives it as reasonable, reflective thinking directed at deciding what to believe or do (Ennis, 1996, 2011), while research on creativity emphasises the capacity to approach problems in different ways and to produce original products (Torrance, 1974). Fifth, Hattie and Timperley (2007) showed that feedback is most effective when it clarifies the gap between current and desired performance and indicates the next steps, which underpins the formative assessment mechanism of the method. Finally, the Revised Bloom's Taxonomy (Anderson & Krathwohl, 2001), with its distinction between lower- and higher-order thinking skills (LOTS and HOTS), is used to design the problem questions and assignments.

2. Materials and Methods

2.1. Research design

The study followed a developmental (design-oriented) approach: a method was first derived from the theoretical foundations above, then specified as a sequence of stages with defined trainer and trainee activities, implemented in CPD courses, and examined using descriptive quantitative indicators. The work formed part of a wider doctoral study of the methodology for developing English teachers' 4C skills, which proceeds through five methodological stages — diagnostic, design, practical, assessment and reflective. The comparison of the MTA-4K course with the traditional CPD format reported below is a structured, criterion-based comparison of course features; an experimental comparison of learning outcomes is outside the scope of this article.

2.2. Context and participants

The method was implemented in CPD courses for in-service English teachers, whose language proficiency was at the B2–C1 level of the Common European Framework. This level allows trainees to analyse pedagogical problems, justify their positions and discuss methodological solutions in English. The monitoring data reported here come from [number of participants, institution, academic year and course duration — to be completed by the author]. Participation was voluntary, and data were analysed in aggregated form.

2.3. The MTA-4K method

MTA-4K consists of six consecutive stages (Table 1). Its core idea is that trainees acquire the initial theoretical content independently before the session, so that the 90 minutes of contact time are spent on problem analysis, group work and the creation of pedagogical products rather than on re-explaining content. The trainer acts as a facilitator who guides discussion and supports trainees' activity. The method is intended to enrich, not replace, the content of traditional CPD courses, and it combines elements of problem-based learning, project-based teaching, task-based learning and communicative language teaching (Richards & Rodgers, 2010).

Table 1. The six stages of MTA-4K and the 4C skills they target

Stage	**Core trainee activity**	**Dominant 4C skill(s)**
1. Independent preparation	Studies materials (e.g., a video) and prepares initial questions or hypotheses before the session; builds a lexical and conceptual reserve.	Communication; critical thinking
2. Knowledge activation	Quizzes, True/False items, matching activities, brainstorming or group discussion to retrieve prior preparation.	Communication
3. Problem orientation	Analyses a case study, problem question or pedagogical dilemma built on HOTS (analysis, evaluation, creation).	Critical thinking

Stage	Core trainee activity	Dominant 4C skill(s)
4. Collaborative solution	Works in groups of 3–5 with assigned roles (moderator, researcher, analyst, presenter) following the five principles of cooperative learning.	Collaboration (with communication and critical thinking)
5. Creative pedagogical product	Creates a lesson plan, poster, mini-video, infographic, role-play script, podcast text or future plan usable in real teaching.	Creativity (with critical thinking and collaboration)
6. Presentation, reflection and assessment	Presents the product; peer feedback ("two stars and a wish"); trainer's formative feedback; exit ticket.	Communication (with critical thinking)

Stage 1 differs from conventional homework because its purpose is to provide structured, clearly guided material that brings trainees to the session with the necessary theoretical knowledge. Stage 3 uses HOTS questions such as: "Suppose your head of department asks you to teach a special lesson to develop 4C skills. Which approach would you choose and why?" Such questions require analysing, comparing, justifying and decision-making simultaneously. In Stage 4, working roles and the five principles of cooperative learning structure the group process. Stage 5 is the most distinctive feature of the method, as trainees must give shape to their ideas in a product that others can evaluate and that can be used in real practice. At Stage 6, each session ends with an exit ticket in which each trainee records one key insight and one concrete change to be made in the next lesson.

2.4. Sample sessions

To illustrate implementation, two 90-minute sessions were designed. Session 1, "Online Safety", follows the six stages with a pre-session video and the task of noting three main internet risks (Stage 1), ten True/False items based on the video (Stage 2), a problem question on why online safety matters for teenagers and what teachers' responsibilities are (Stage 3), the creation of five "Internet Safety Rules for Teenagers" in role-based groups (Stage 4), an "Internet Safety Poster" (Stage 5), and poster

presentations with an exit ticket asking each trainee to write one rule to be taught the following week (Stage 6). Session 2, "Critical Thinking in ELT", has the educational aim of mastering ways to develop critical thinking in English lessons and the developmental aim of strengthening the teachers' own critical thinking and their ability to write HOTS questions. Trainees watch a talk on creativity in education and prepare three questions (Stage 1), compare LOTS and HOTS questions using Bloom's taxonomy (Stage 2), analyse a case of a pupil who answers every question only with "yes" or "no" (Stage 3), write five HOTS questions for a school-curriculum topic and place each at a taxonomy level (Stage 4), produce a "Critical Thinking Card" containing the topic, HOTS questions and expected answers (Stage 5), and present the cards, followed by an exit ticket asking for one HOTS question to be used in the next lesson (Stage 6).

2.5. Data sources and analysis

Three sets of descriptive data were used. (1) *Stage-level application.* The share of 4C application in each of the methodological stages (diagnostic, design, practical, assessment, reflective) was estimated from the structure and activities of each stage. (2) *Distribution of skills across the MTA-4K stages.* The skills assigned to each of the six stages (Table 1) were counted and expressed as a percentage of all coded assignments. (3) *Monitoring across modules.* Trainees' 4C development was tracked in each of six modules through three sources: a trainer observation sheet, a reflective diary completed by trainees, and a professional portfolio of the pedagogical products created in each module. For each source the level of development was expressed as a percentage of the maximum score on the corresponding criteria. The assessment system rests on three principles: joint assessment of process and product; combination of peer and self-assessment with formal assessment; and the combined use of formative and summative assessment. Because the data are descriptive, no inferential tests are reported; changes are described in percentage points.

3. Results

3.1. Application of 4C skills across the stages of the methodology

Figure 1 shows that 4C skills were not applied uniformly across the five stages of the methodology. The highest value was recorded at the practical stage (81%), where

trainees work in groups, design lessons, analyse problem situations, develop communicative tasks, give presentations and practise microteaching, and therefore display all four skills directly. The diagnostic stage followed closely (79%): at this stage the trainees' existing methodological preparation, attitude to problem situations, readiness for communication and collaboration and creative approach are identified, so diagnosis functions as an assessment of the real state of their 4C skills rather than a mere collection of baseline data.

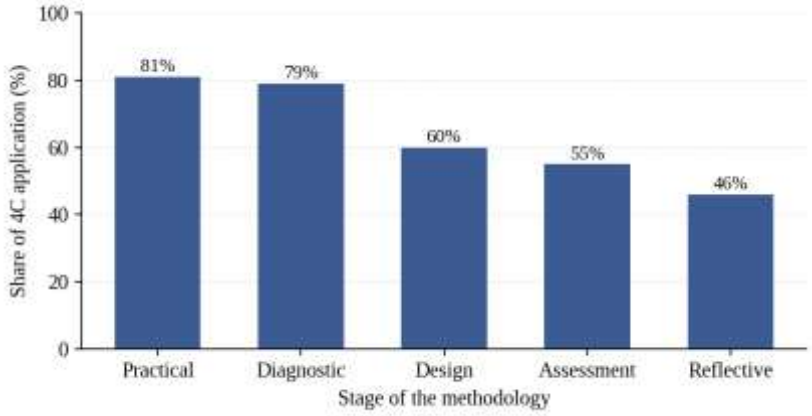

Fig. 1. Share of 4C application by methodological stage (%)

The design stage reached 60%. Here the skills appear mainly in planning course content, setting objectives, selecting tasks, planning group activity and defining assessment criteria, which is largely theoretical-methodological planning and therefore yields a lower share than the practical stage. At the assessment stage the share was 55%, where rubrics, self- and peer assessment, observation sheets and feedback require communication and critical thinking: trainees must justify their analysis of their own work, respond constructively to the work of others and identify next steps. The lowest value was recorded at the reflective stage (46%). This suggests that 4C skills were used least actively when trainees analysed their own practice, identified strengths and weaknesses and reconsidered methodological decisions, and that tools such as reflective diaries, portfolios, group discussion and peer feedback should be used more widely at this stage.

3.2. Distribution of the four skills across the six MTA-4K stages

The analysis of the six-stage structure showed that critical thinking accounted for the largest share of assigned skills (42.9%), reflecting the method's orientation towards

problem analysis, questioning, argumentation and decision-making. Communication was second (35.7%) and was the main activity at the independent preparation, knowledge activation and presentation-reflection stages. Collaboration accounted for 14.3%, associated mainly with solution development in small groups, and creativity for 7.1%, concentrated in the creative-product stage, where trainees prepare lesson plans, posters, podcasts or videos. These proportions indicate counts of the skill that is *dominant* at a given stage; they do not mean that the other skills are absent. As Table 1 shows, the practical stages deliberately engage several skills at once (for example, Stage 5 engages creativity, critical thinking and collaboration), so the four skills are developed in an integrated, not isolated, manner.

3.3. Qualitative comparison with the traditional CPD format

Table 2. Comparison of a traditional CPD course and a course based on MTA-4K

Criterion	Traditional CPD course	MTA-4K-based course
Trainee role	Passive recipient	Active participant, product creator
Use of course time	Theoretical lecture, note-taking	Problem analysis, practical activity
Knowledge acquisition	Listening and memorising	Analysis, discussion, application
4C skills	Develop passively	Develop purposefully and in an integrated way
Final outcome	Certificate	Pedagogical portfolio, demonstrable skills
Teacher transformation	Minimal	Strong, practice-oriented

The criterion-based comparison in Table 2 summarises the design differences between the two formats. These are differences in how the courses are organised, not measured differences in outcomes; they are the features whose effects the monitoring data in Section 3.4 explore.

3.4. Dynamics of 4C development across six modules

Table 3 and Figure 2 present the monitoring data. In the first module the indicator was 45% according to the trainer observation sheet, 38% according to the reflective diary

and 35% according to the professional portfolio, which indicates that at the start of the course trainees' ability to demonstrate 4C skills in practice was still developing, particularly in reflective analysis and in creating pedagogical products. All three indicators increased in every subsequent module.

Table 3. Level of 4C development by monitoring source and module (%)

Monitoring source	M1	M2	M3	M4	M5	M6
Trainer observation sheet	45	55	63	72	80	88
Reflective diary	38	50	60	68	76	84
Professional portfolio	35	48	62	73	82	90

Note. Values for modules 2–5 were read from the monitoring chart; values for modules 1 and 6 are those stated in the study records.

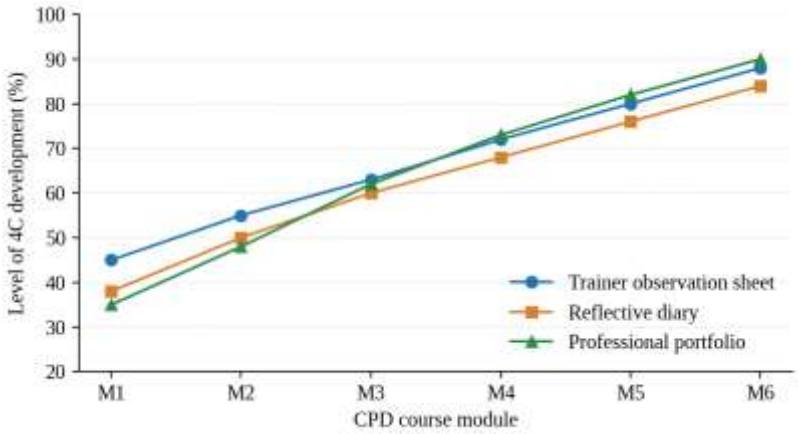

Fig. 2. Dynamics of 4C development across six course modules by monitoring source (%)

The observation sheet rose from 45% to 88% (+43 percentage points), which indicates steadily increasing trainee activity in sessions, participation in group work, analysis of problem situations and willingness to communicate. The reflective diary rose from 38% to 84% (+46 points), showing that reflective skills — analysing one's own activity, identifying strengths and weaknesses and defining directions for further development — were being formed gradually. The portfolio rose from 35% to 90% (+55 points) and was the highest and fastest-growing indicator, suggesting a marked improvement in trainees' ability to design lesson plans, task systems, assessment criteria and presentation materials. From the fourth module onwards, the portfolio indicator

exceeded the observation sheet (73% vs. 72% in Module 4; 90% vs. 88% in Module 6), which can be interpreted as a consolidation of the ability to produce practical pedagogical products. The consistent upward trend across all three independent sources strengthens the plausibility of the finding, since it is not dependent on a single instrument.

4. Discussion

The study set out to describe a CPD method for developing English teachers' own 4C skills and to examine its functioning. Regarding RQ1, the six-stage structure of MTA-4K can be traced directly to its theoretical foundations: independent preparation and knowledge activation operationalise the flipped-classroom logic and the cognitive-load argument for preparation; problem orientation applies Dewey's idea that learning begins in a problematic situation and Ennis's conception of critical thinking as reasoned decision-making; collaborative solution follows the conditions of cooperative learning set out by Johnson and Johnson (2009); the creative-product stage turns Torrance's view of creativity into a tangible outcome; and the final stage combines Kolb's phase of reflection and application with Hattie and Timperley's account of feedback that closes the gap between current and desired performance. The method thus translates the general principles of effective professional development — active learning, collaboration, feedback and reflection (Darling-Hammond et al., 2017) — into a specific sequence of tasks, which is the type of concrete operationalisation that is often missing in CPD practice.

Regarding RQ2, the finding that 4C application is highest at the practical and diagnostic stages and lowest at the reflective stage is of practical importance. It indicates that the method already provides a strong platform for active skill use, but that reflection, which Dewey and Schön regard as the process through which experience becomes knowledge, is still the weakest link. The pattern within the six-stage structure, where critical thinking and communication dominate while creativity and collaboration each have a single "home" stage, suggests that the creative and collaborative components depend heavily on the quality of one stage each. Trainers should therefore protect time for Stages 4 and 5 and should not allow them to be shortened when sessions run over. In

contrast, the high share of critical thinking and communication is consistent with the language-teaching context, where discussion and argumentation in English are central. This also echoes the finding from primary English classrooms that 4C skills are formed through active speech, discussion, role play and creative tasks (Kurbanbayev, 2025), with the important addition that the same logic must first be experienced by the teachers themselves.

Regarding RQ3, the monitoring data show consistent growth across all three sources. The particularly steep rise of the portfolio indicator and its overtaking of the observation sheet after Module 4 are compatible with the idea that the cumulative creation of pedagogical products consolidates competence over time. The closer pairing of the diary and observation trends suggests that reflection and observable behaviour develop together. This convergence supports the view that formative, multi-source assessment — observation, self-assessment and product evidence — is better suited to track 4C development than a single summative test (Hattie & Timperley, 2007; Ismailov et al., 2024). The practical conditions identified for effective use of the method are also worth stressing: preparation materials must be short, precise and purposeful; assignments must be given before the session with clear instructions; the course environment must make free communication in English possible; group work must be systematically organised; and assessment criteria must be shared with trainees beforehand.

4.1. Limitations

Several limitations should be acknowledged. First, the data are descriptive: the monitoring scores are percentages of maximum criterion scores recorded by the same programme, with no inferential statistics or reliability coefficients reported here. Second, no control group is included in this analysis, so the growth observed cannot be attributed to MTA-4K alone, because maturation, the general effect of attending a CPD course and trainer expectations may also have contributed. Third, the stage-level shares in Section 3.1 and 3.2 are analytical estimates of the structure of the methodology rather than measured learner behaviour. Fourth, the study concerns English teachers in a specific national context, and generalisation to other subjects or countries should be made

cautiously. Future research should use a quasi-experimental design with a comparison group, report the instruments' reliability, include follow-up observation of trainees' own classrooms, and examine whether the development of teachers' 4C skills translates into improved 4C outcomes among their pupils.

5. Conclusion

This article presented MTA-4K, a six-stage method that restructures CPD courses for English teachers around independent preparation, knowledge activation, problem orientation, collaborative solution development, creation of a pedagogical product, and presentation with reflection and assessment. The method is grounded in experiential learning, reflective practice, flipped learning, cooperative learning and formative feedback, and it integrates all four 4C skills in each session, so that teachers experience the learning they are expected to organise for their pupils. Preliminary evidence indicates that 4C application is strongest in practical and diagnostic work, that critical thinking and communication are the dominant skills in the six-stage structure, and that three independent monitoring sources record steady growth across six modules (to 88%, 84% and 90%). The reflective stage needs strengthening through reflective diaries, portfolios, group discussion and peer feedback. The findings support the use of MTA-4K as a promising methodological mechanism for CPD courses, while a controlled evaluation remains necessary to confirm its effectiveness.

References

1. Anderson, L. W., & Krathwohl, D. R. (Eds.). (2001). *A taxonomy for learning, teaching, and assessing: A revision of Bloom's taxonomy of educational objectives*. Longman.

2. Darling-Hammond, L., Hyler, M. E., & Gardner, M. (2017). *Effective teacher professional development*. Learning Policy Institute.

3. Dewey, J. (1933). *How we think: A restatement of the relation of reflective thinking to the educative process*. D. C. Heath.

4. Ennis, R. H. (1996). Critical thinking dispositions: Their nature and assessability. *Informal Logic, 18*(2–3), 165–182.

5. Ennis, R. H. (2011). *The nature of critical thinking: An outline of critical thinking dispositions and abilities*. University of Illinois.

6. Hattie, J., & Timperley, H. (2007). The power of feedback. *Review of Educational Research, 77*(1), 81–112. https://doi.org/10.3102/003465430298487

7. Ismailov, A., Badalova, M., Xodjayev, B., Nuralieva, K., & Qosimova, Z. (2024). *Dars jarayonida "4K" kompetensiyalarini shakllantirish va baholash: Boshlang'ich sinf o'qituvchilari uchun metodik qo'llanma* [Developing and assessing "4C" competences in the lesson: A methodological guide for primary school teachers]. Zuxro Baraka Biznes.

8. Johnson, D. W., & Johnson, R. T. (2009). An educational psychology success story: Social interdependence theory and cooperative learning. *Educational Researcher, 38*(5), 365–379. https://doi.org/10.3102/0013189X09339057

9. Jo'rayeva, N. O'. (2025). *Ona tili va o'qish savodxonligi darslarida "4K" ko'nikmalarini rivojlantirish va takomillashtirish metodikasi* [Methodology for developing and improving "4C" skills in mother-tongue and reading-literacy lessons] [Doctoral dissertation abstract, Bukhara State University].

10. Kolb, D. A. (1984). *Experiential learning: Experience as the source of learning and development*. Prentice Hall.

11. Kurbanbayev, I. M. (2025). *Ingliz tili darslari orqali boshlang'ich sinf o'quvchilarining "4K" ko'nikmalarini rivojlantirish metodikasi: Qoraqalpoq sinflari misolida* [Methodology for developing primary pupils' "4C" skills through English lessons: The case of Karakalpak classes] [Doctoral dissertation abstract, Karakalpak State University].

12. Organisation for Economic Co-operation and Development. (2018). *The future of education and skills: Education 2030*. OECD Publishing.

13. Partnership for 21st Century Learning. (2019). *Framework for 21st century learning definitions*. Battelle for Kids. https://www.battelleforkids.org/networks/p21/frameworks-resources

14. Richards, J. C., & Farrell, T. S. C. (2005). *Professional development for language teachers: Strategies for teacher learning*. Cambridge University Press.

15. Richards, J. C., & Rodgers, T. S. (2010). *Approaches and methods in language teaching* (2nd ed.). Cambridge University Press.

16. Rusdin, N. M., & Ali, S. R. (2019). Practice of fostering 4Cs skills in teaching and learning. *International Journal of Academic Research in Business and Social Sciences, 9*(1), 1021–1035. https://doi.org/10.6007/IJARBSS/v9-i6/6063

17. Salybekova, F. M., Almetov, N. S., Karbozova, G. K., Suyuberdieva, A. A., Kudaibergenova, M. R., & Nazarova, G. Z. (2023). Role of the integration of the 4C model in the professional training of foreign language teachers. *Frontiers in Education, 8*, 1125728. https://doi.org/10.3389/feduc.2023.1125728

18. Schön, D. A. (1983). *The reflective practitioner: How professionals think in action*. Basic Books.

19. Sweller, J. (1988). Cognitive load during problem solving: Effects on learning. *Cognitive Science, 12*(2), 257–285.

20. Torrance, E. P. (1974). *Torrance tests of creative thinking: Norms-technical manual*. Personnel Press.

21. Trilling, B., & Fadel, C. (2009). *21st century skills: Learning for life in our times*. Jossey-Bass.

22. Voogt, J., & Roblin, N. P. (2012). A comparative analysis of international frameworks for 21st century competences: Implications for national curriculum policies. *Journal of Curriculum Studies, 44*(3), 299–321. https://doi.org/10.1080/00220272.2012.668938