# FROM FRAMEWORK TO PRACTICE: A PEDAGOGICAL MODEL FOR DESIGNING AI-INTEGRATED ENGLISH LESSONS FOR SCHOOL AND UNIVERSITY LEARNERS

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***Abstract:*** Building directly on the authors' methodological framework, which mapped five categories of artificial intelligence (AI) tools onto specific EFL speaking and writing sub-skills and consolidated a five-stage AI-integrated instructional cycle [10], the present thesis addresses the practical question that framework left open: how a classroom teacher should organize a lesson, allocate time, and select tools so that AI use becomes a quality-controlled pedagogical event rather than an incidental add-on. Using a qualitative, literature-based design synthesis of implementation-focused sources published between 2021 and 2026, the study translates the five-stage cycle into a concrete, time-structured lesson blueprint, differentiated for school-age (grades 5-11) and university EFL learners, and proposes a set of lesson-quality criteria that teachers and methodologists can use to evaluate AI-integrated lessons. The analysis shows that classroom-implementation feasibility, and not pedagogical effectiveness alone, differs systematically between school and university settings: speech-recognition tools are comparatively easy to deploy with younger learners, whereas generative AI and natural-language-processing (NLP) writing checkers require a level of learner autonomy and device access more reliably

available at university level. The proposed model organizes each lesson stage around explicit teacher actions, learner actions, AI-tool choices, and formative-assessment checkpoints, and is illustrated with a sample eighty-minute university-level lesson plan and a level-differentiated adaptation table. The discussion addresses teacher AI-literacy preparation, equitable access, and safeguards against learner over-reliance on automated correction, and offers concrete recommendations for methodologists designing AI-integrated EFL curricula within school and university systems in Uzbekistan.

***Keywords:*** artificial intelligence, EFL pedagogy, lesson design, school English teaching, university English teaching, instructional quality, teacher training, generative AI, adaptive learning, classroom implementation.

## INTRODUCTION

The authors' earlier study developed a literature-grounded methodological framework that classified artificial intelligence (AI) tools according to their reported effect on specific EFL speaking and writing sub-skills and consolidated the recurring instructional sequences reported in the literature into a single five-stage cycle: AI-mediated input, interactive production, automated feedback, learner self-revision, and adaptive re-practice [10]. That framework established which categories of tools work and in what order they should be used; it did not, however, specify how a teacher should distribute a real lesson period across these five stages, what concrete actions the teacher and the learners should perform at each stage, or how the same cycle should be adapted to the very different classroom realities of school-age learners and university students. The present thesis addresses this remaining, practice-oriented gap.

This gap is not merely a matter of convenience. Recent implementation-focused studies show that when teachers use generative AI without a structured pedagogical scaffold, the resulting lesson materials are efficiently produced but weak in pedagogical strategy: a case study of pre-service EFL teachers designing

a middle-school lesson with generative AI found that participants used the tool successfully for topic selection, material creation, and language checking, but incorporated comparatively little effective pedagogy, and the authors called explicitly for structured training in prompt engineering and pedagogical application [8]. Parallel work on teachers' conceptual readiness for AI-assisted EFL teaching similarly stresses that teachers need explicit competency support before AI use translates into instructional quality [1], a need corroborated by EFL educators themselves, who report wanting structured training across human-centred, ethical, technical, and specifically pedagogical dimensions of AI use [14]. A recent synthesis of fourteen systematic reviews on AI in ESL/EFL education (2024-2025) makes the same point at a field level, calling for a shift from cataloguing tool effectiveness toward a pedagogy-first, ethically grounded research and practice agenda [6]. Translating a validated tool-to-outcome mapping into an explicit, replicable lesson design is precisely the kind of pedagogy-first contribution this literature calls for.

The aim of this study is to convert the five-stage AI-integrated cycle proposed in the authors' framework [10] into a concrete, time-structured lesson blueprint and a set of lesson-quality criteria applicable to both school and university EFL classrooms. In line with this aim, the study pursues four objectives: (1) to design a stage-by-stage lesson blueprint that specifies time allocation, teacher actions, learner actions, and formative-assessment checkpoints; (2) to differentiate AI-tool selection and teacher/learner roles between school-age and university contexts on the basis of reported implementation-feasibility evidence; (3) to propose a compact set of quality criteria against which an AI-integrated EFL lesson can be evaluated; and (4) to outline the teacher-preparation requirements needed for the model to be adopted sustainably.

The object of the research is the process of organizing classroom instruction around AI-integrated EFL lessons; the subject is the set of implementation variables reported in the literature - time allocation, teacher role, learner role, tool choice, and access constraints - as they interact with the five-stage cycle proposed in [10]. The working hypothesis is that classroom-implementation feasibility of AI tool categories differs systematically by educational level, independently of the tools' reported pedagogical effectiveness, and that this feasibility gap must be built into the lesson blueprint rather than treated as an afterthought. The scientific novelty of the study lies in providing the first application-level translation of the tool-to-outcome mapping and five-stage cycle reported in [10] into a differentiated, time-structured classroom blueprint together with an explicit lesson-quality checklist, a combination not previously presented, to the authors' knowledge, in the reviewed literature.

## LITERATURE REVIEW

Recent literature relevant to the practical implementation of AI-integrated EFL lessons can be organized into four strands: lesson-planning studies, teacher-preparation studies, level-specific implementation and equity studies, and cross-cutting calls for pedagogy-first synthesis.

### *Lesson-planning studies*

Kerr and Kim [8] conducted a case study of pre-service EFL teachers tasked with designing a middle-school lesson using generative AI at every stage of the design process, from conceptualization to material creation. Thematic analysis of the resulting lesson plans showed that generative AI was used effectively for topic selection, material generation, lesson organization, and language checking, but that the plans incorporated pedagogical strategy only to a limited extent, and the authors recommended targeted training in prompt engineering, ethics, and pedagogy rather than tool use alone. This finding directly motivates the present study’s decision to specify teacher and learner

actions explicitly at every stage, rather than leaving pedagogical judgement to incidental teacher discretion.

***Teacher-preparation studies***

Babanoğlu, Öztürk Karataş and Dündar [1] examined prospective EFL teachers' conceptual representations of AI-assisted teaching and learning and, drawing on the UNESCO AI-competency framework, argued that teachers require explicit knowledge of AI's nature, appropriate use, and associated risks before AI integration can reliably improve teaching quality. Metwally and Bin-Hady [14] surveyed Saudi EFL educators directly and found that teachers themselves request structured training across five dimensions - a human-centred mindset, AI ethics, technical foundations, AI-specific pedagogy, and professional development - a structure that closely parallels the teacher-preparation component proposed later in this thesis.

***Level-specific implementation and equity studies***

At the school level, Kundu and Bej's systematic review of twenty-two empirical studies confirmed measurable gains across reading, writing, listening, speaking, and vocabulary when AI tools are used in school-based EFL instruction, while stressing that heterogeneous classrooms and uneven access to devices shape how reliably these gains are realized [11]. Their companion study of AI innovations in schools of the Global South identified three core mechanisms - personalized feedback, self-directed learning through intelligent tutoring systems, and cultural/contextual adaptation - and found that all three are moderated critically by infrastructure limitations, device-access disparities, and teacher preparedness [12], a finding with direct relevance to school systems, including those in Uzbekistan, where device access and internet connectivity are not uniform across regions. At the university level, Qu's study of AI-driven adaptive platforms found that these platforms significantly enhance academic engagement by matching content to learners' individual needs and learning

styles, with learning style acting as a stronger mediator of engagement than proficiency level [15], suggesting that university learners can meaningfully exercise the greater tool autonomy that adaptive and generative systems require.

***Cross-cutting calls for pedagogy-first synthesis***

Jeon's review of fourteen systematic reviews and meta-analyses published in 2024-2025 concluded that the field has generated ample evidence that AI tools work, but comparatively little evidence on how they should be organized into classroom practice, and called explicitly for a pedagogy-first, ethically grounded agenda [6]. This conclusion echoes the equity and teacher-literacy cautions already raised in the authors' original framework [10] and in the broader ethical literature on AI in education [3], [7].

Taken together, the reviewed literature converges on a pattern not addressed jointly by any single reviewed source: generative and adaptive AI tools reliably improve outcomes only when embedded in an explicit pedagogical sequence with defined teacher and learner roles [8]; the feasibility of embedding a given tool in that sequence differs systematically between school and university settings because of access, cost, and learner-autonomy constraints [11], [12], [15]; and the field currently lacks a concrete, differentiated lesson-level translation of validated tool-to-outcome findings into classroom practice [6]. This is the gap the present study addresses.

**METHODOLOGY**

This study employed a qualitative, literature-based design synthesis, extending the descriptive-analytical approach used in the authors' original framework study [10], but applied specifically to implementation-oriented and lesson-design literature. This design was selected because the research questions concerned the translation of already-validated tool-to-outcome findings into a

concrete, replicable classroom procedure, rather than the collection of new experimental data.

Sources were identified through ERIC, ScienceDirect, SAGE Open, Cogent Education, the European Journal of Education, and related academic databases, using the search terms “AI lesson planning”, “teacher AI training”, “AI literacy”, “adaptive learning”, “school EFL”, “university EFL”, and “AI implementation”, restricted to peer-reviewed sources published between 2021 and 2026 that reported empirical findings on how AI tools are actually planned, deployed, or constrained in EFL/ESL classroom or teacher-training settings.

Three analytical procedures were applied. First, implementation variables reported across the retained sources - time allocation, teacher role, learner role, tool choice per instructional phase, and reported constraints - were extracted and mapped onto the five stages of the cycle proposed in [10], producing the lesson blueprint presented in Figure 1 and the sample lesson micro-plan presented in Table 1. Second, reported implementation-feasibility indicators (cost, device or internet dependency, and required learner autonomy) were compared across school-level sources [8], [11], [12] and university-level sources [15], [7], producing the level-differentiated feasibility comparison presented in Figure 2 and the adaptation table presented in Table 2; feasibility ratings were assigned independently by the two authors and reconciled through discussion. Third, recurring quality-risk themes - insufficient pedagogical strategy in AI-generated plans [8], the need for structured teacher competency [1], [14], and equity of access [12] - were consolidated into the lesson-quality checklist presented in the following section.

## PROPOSED PEDAGOGICAL MODEL

### *A time-structured lesson blueprint*

Figure 1 operationalizes the five-stage cycle proposed in [10] within a single lesson period of approximately seventy to eighty minutes, a duration typical of both upper-secondary school and university EFL classes. Each stage is assigned an indicative time range rather than a fixed duration, since the school-level adaptation compresses stages relative to the university-level adaptation, as described below.

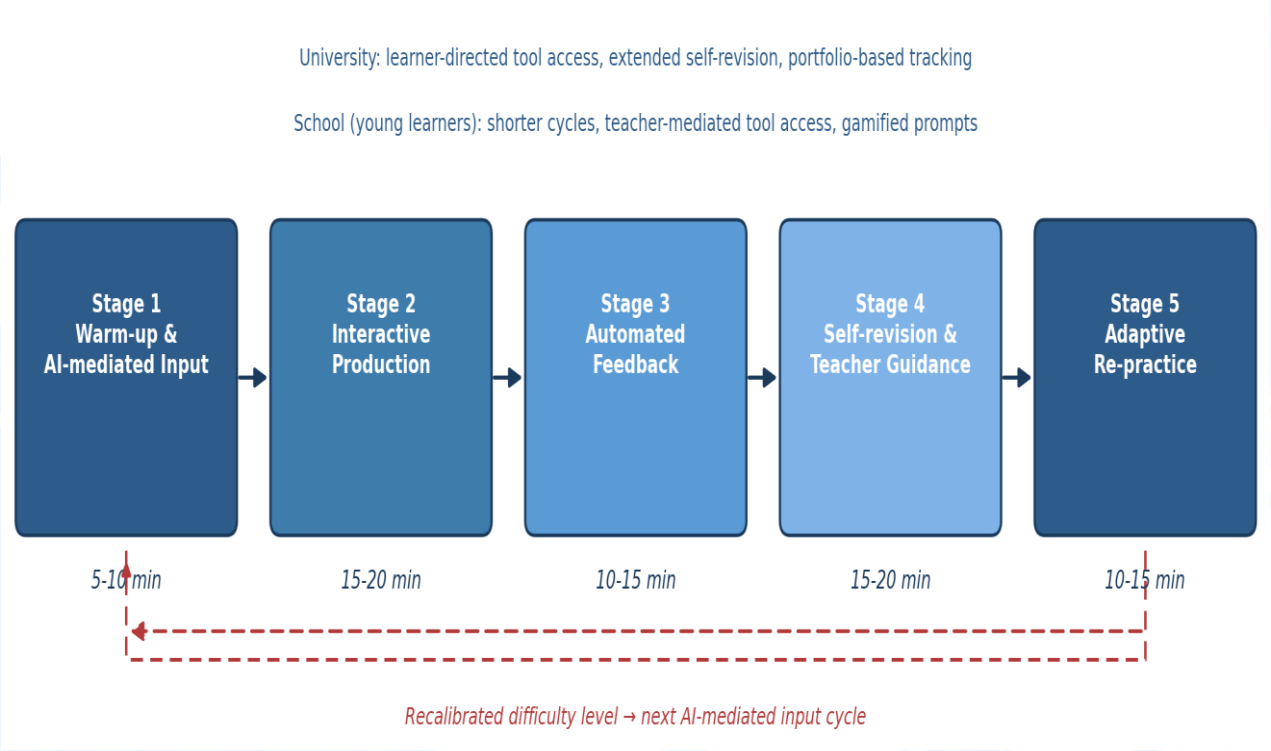


***Figure 1. AI-integrated lesson blueprint: allocating the five-stage cycle within a single EFL lesson period.***

Stage 4 - self-revision and teacher guidance - is deliberately allotted the largest or second-largest time block in both school and university variants. This design choice directly operationalizes a safeguard identified in the original framework, namely that automated feedback is not pedagogically neutral and that learners benefit from treating AI feedback as a companion to, rather than a replacement for, teacher judgement [10]; the finding that pre-service teachers' AI-generated lesson plans under-specify pedagogical strategy when this stage is

left implicit [8] further supports making it an explicit, timed component of every lesson rather than an optional add-on.

Table 1 illustrates the blueprint with a worked example: a sample eighty-minute university-level lesson combining speaking and writing practice around a single communicative topic.

***Table 1.***

***Sample AI-integrated lesson micro-plan (university level, 80 minutes)***

| Stage | Time | Teacher action | Learner action | AI tool | Formative check |
|---|---|---|---|---|---|
| 1. Warm-up & AI-mediated input | 8 min | Displays an AI-generated short dialogue / reading on the lesson topic; sets a listening or noticing task | Listen/read, note target structures or vocabulary | Generative AI (topic text); chatbot (dialogue) | Quick-check questions on content |
| 2. Interactive production | 18 min | Sets up pair/individual speaking or drafting task; monitors, does not correct yet | Speak with a chatbot/ASR app, or draft a short written text | Chatbot; ASR speaking app; word processor | Teacher circulates, notes recurring issues |
| 3. Automated feedback | 12 min | Directs learners to submit output to the relevant checker; explains | Receive itemized feedback on fluency, pronunciation, | ASR feedback (speaking); NLP checker / | Learners highlight 2-3 flagged items |

| | | | | | |
|---|---|---|---|---|---|
| | | how to read the report | grammar, or organization | generative AI (writing) | |
| 4. Self-revision & teacher guidance | 18 min | Reviews flagged items with the class/groups; models how to accept, reject, or query AI feedback | Revise output; justify at least one accepted and one rejected suggestion | Same tool (for re-check); teacher discussion | Short revision log or peer check |
| 5. Adaptive re-practice | 12 min | Assigns a follow-up micro-task targeting the specific weakness identified in Stage 3 | Complete a short targeted task; log difficulty level for the next lesson | Adaptive platform or teacher-set task at recalibrated level | Exit ticket tied to the targeted weakness |

***Differentiating the model for school and university learners***

The working hypothesis of this study - that implementation feasibility, not effectiveness alone, differs by educational level - is illustrated in Figure 2, which compares the reported classroom-implementation feasibility of the five AI tool categories identified in [10] for school-age learners (grades 5-11) and university learners.

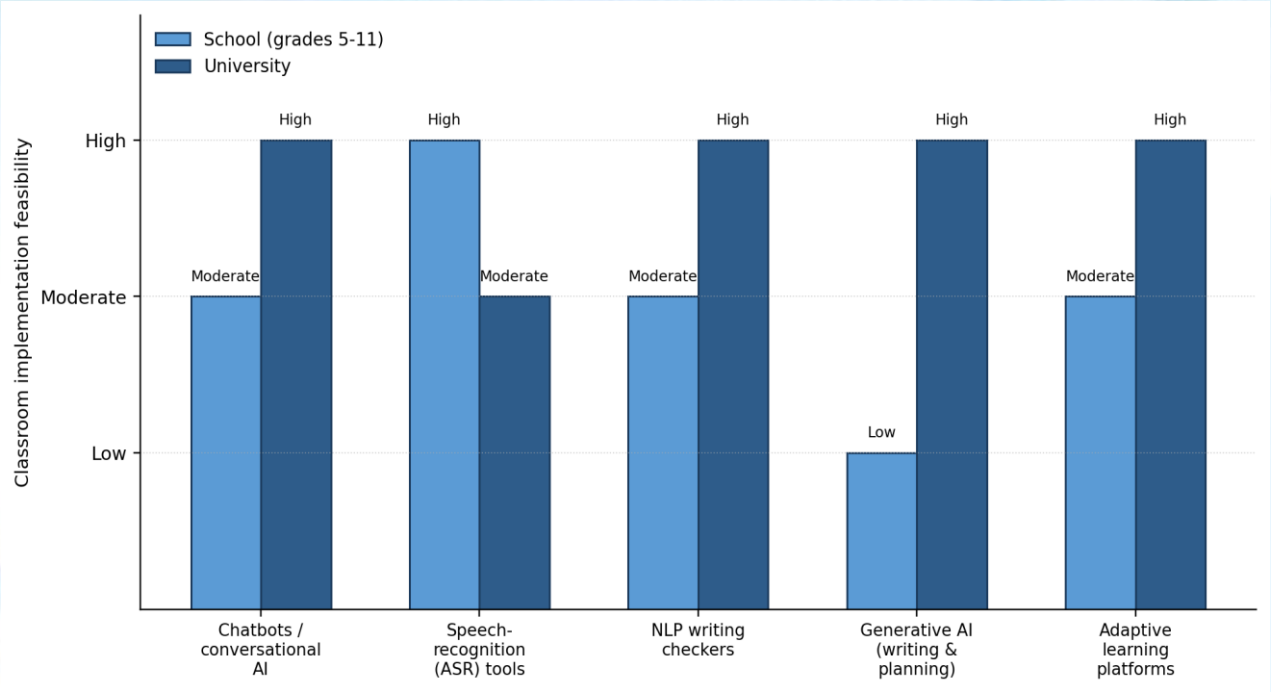


***Figure 2. Reported classroom-implementation feasibility of AI tool categories by educational level (device access, cost, and learner independence considered).***

Speech-recognition and automatic speech-evaluation tools are rated High for school-level feasibility: they require little text literacy, can run on a single shared device, and give learners an immediately interpretable spoken-output score, consistent with school-based evidence on ITS-supported vocabulary, grammar, and pronunciation practice [11]. Generative AI tools, by contrast, are rated Low for school-level feasibility and High for university-level feasibility, reflecting both the greater text-production autonomy required to use such tools productively and the access and academic-integrity safeguards that are more straightforward to enforce with adult learners; this pattern is consistent with the infrastructure and teacher-preparedness constraints identified in Global South school contexts [12] and with the stronger role of individual learning-style matching observed among university learners using adaptive platforms [15]. Table 2 translates this feasibility pattern into stage-by-stage adaptation guidance.

***Table 2.***

*Adapting the five-stage cycle to school and university EFL contexts*

| Cycle stage | School adaptation (grades 5-11) | University adaptation |
|---|---|---|
| 1. AI-mediated input | Short, teacher-curated AI-generated texts/dialogues (1-2 min listening); teacher pre-screens content for age-appropriateness | Longer, learner-selected AI-generated input; learners may adjust register/topic themselves |
| 2. Interactive production | Whole-class or paired use of one shared device; gamified chatbot prompts (roleplay, quests) | Individual device use; task-based chatbot dialogues or extended drafting on personal accounts |
| 3. Automated feedback | ASR speaking-feedback apps preferred (high feasibility, low text-literacy demand); NLP writing checkers used sparingly and teacher-mediated | Full range of NLP checkers and generative AI feedback used independently, with citation/authorship rules made explicit |
| 4. Self-revision | Teacher-led whole-class discussion of 1-2 common flagged errors; minimal independent revision | Independent revision with a required justification log (accept/reject AI suggestions) submitted for review |
| 5. Adaptive re-practice | Teacher assigns the next task manually, informed by AI feedback trends across the class | Adaptive platform or self-selected task at a recalibrated difficulty level, tracked in a learning portfolio |

## LESSON-QUALITY CRITERIA AND TEACHER PREPARATION

Drawing on the recurring quality-risk themes identified in the literature review, five criteria are proposed for evaluating whether a given AI-integrated EFL lesson meets the standard implied by the blueprint above, rather than using AI as an unstructured add-on:

1. Explicit stage sequencing - the lesson visibly moves through input, production, feedback, revision, and re-practice, rather than stopping after a single AI-generated activity, addressing the pedagogical-strategy gap identified by Kerr and Kim [8].

2. Tool-skill alignment - the AI tool selected for each stage matches its reported strongest sub-skill (speech-recognition for pronunciation/fluency; NLP checkers or generative AI for writing accuracy and organization) rather than being chosen for convenience [10].

3. A mandatory teacher-mediated revision checkpoint - Stage 4 cannot be omitted or automated away, preserving the teacher's formative role and countering learner over-reliance on automated correction.

4. An explicit equitable-access plan - for school contexts in particular, the lesson specifies how learners without personal devices or stable connectivity will participate, in line with the access constraints documented in Global South school settings [12].

5. An assessment-integrity safeguard - at university level, the lesson states clearly which parts of a written or spoken product may involve AI assistance and how this will be disclosed or verified.

Meeting these criteria presupposes a teacher-preparation component. Consistent with the training needs reported by Saudi EFL educators across human-centred, ethical, technical, and pedagogical competency dimensions [14], and with prospective teachers' own recognition that they require structured AI knowledge before integration can improve teaching quality [1], the proposed model recommends that teacher preparation for the blueprint cover: (a) prompt-writing practice for Stage 1 input generation; (b) hands-on use of at least one tool per category so that teachers can interpret automated feedback reports

themselves before facilitating Stage 4; and (c) explicit guidance on flagging or disclosing AI-assisted work, particularly for university-level writing tasks.

## DISCUSSION

The results address the objectives set out in the introduction. Regarding the first objective, the blueprint in Figure 1 and the worked example in Table 1 show that the five-stage cycle proposed in [10] can be operationalized within an ordinary lesson period without requiring more instructional time than a conventional productive-skills lesson, provided that Stage 4 is deliberately protected rather than compressed under time pressure - a risk implicit in Kerr and Kim's finding that AI-assisted lesson plans tend to under-specify pedagogical strategy when this is left to teacher discretion [8].

Regarding the second objective, the feasibility comparison in Figure 2 and the adaptation guidance in Table 2 confirm the study's working hypothesis that classroom-implementation feasibility, rather than reported pedagogical effectiveness alone, drives how a given AI tool category should be used at a given educational level. This finding extends, rather than contradicts, the tool-to-outcome mapping of the original framework [10]: a tool category rated highly effective for a given sub-skill may still be rated low-feasibility for school-level implementation, as generative AI illustrates, because effectiveness and feasibility are governed by different sets of conditions - the former by cognitive-linguistic mechanisms, the latter by infrastructure, cost, and learner autonomy [12], [15].

Regarding the third and fourth objectives, the proposed quality criteria and teacher-preparation recommendations respond directly to the pedagogy-first agenda called for in recent field-level synthesis [6] and to teachers' own stated training needs [1], [14]. They also operationalize, at the classroom level, the equity and over-reliance cautions already raised in the ethical literature on AI in

education more broadly [3], [7], and in the original framework study specifically [10].

This study has several limitations. First, because the blueprint and adaptation tables were derived through literature-based synthesis rather than classroom trialling, the time allocations in Figure 1 and Table 1, and the feasibility ratings in Figure 2, reflect the authors' interpretive consolidation of reported implementation variables rather than measurements from an implemented lesson; different reviewers could reasonably assign somewhat different time weights to individual stages. Second, most of the level-specific evidence reviewed originates from school and university contexts outside Central Asia, and infrastructural conditions in Uzbekistan's regional schools and universities may require further local adaptation of the feasibility ratings in Table 2. Third, as with the original framework [10], the blueprint proposed here has not yet been tested empirically; its validation requires a classroom-based pilot of the kind conducted by Wei [17] and Fathi, Rahimi and Derakhshan [4], applying a pre- and post-test design to compare lessons that follow the blueprint against lessons using AI tools without an explicit stage structure.

## CONCLUSION

This study set out to translate the authors' previously developed tool-to-outcome mapping and five-stage AI-integrated instructional cycle [10] into a concrete, time-structured lesson blueprint suitable for both school and university EFL classrooms. The analysis shows that the five stages can be organized into an ordinary lesson period, that a mandatory teacher-mediated revision checkpoint is essential to preserving instructional quality, and that AI-tool selection must be differentiated by educational level according to implementation feasibility - access, cost, and required learner autonomy - rather than by reported effectiveness alone.

The contribution of this work is threefold: a time-structured lesson blueprint (Figure 1, Table 1) that teachers can adopt directly; a level-differentiated adaptation table (Figure 2, Table 2) that helps school and university teachers select tools appropriate to their classroom conditions; and a compact set of lesson-quality criteria and teacher-preparation recommendations that methodologists can use when designing AI-integrated EFL curricula. For practitioners, the central recommendation is that AI tools should never be introduced as an isolated activity: every AI-supported lesson should visibly move through input, production, feedback, teacher-mediated revision, and re-practice, with tool choice matched to the target sub-skill and to the learners' actual access conditions. Future research should pilot the proposed blueprint empirically in school and university EFL classrooms in Uzbekistan, using a pre- and post-test design, to determine whether structured implementation yields greater gains than incidental AI use.

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