

RESEARCH ARTICLE

The Effect of Integrating AI Tools with a Flipped Learning Strategy on Improving Grammar Tenses Among Iraqi EFL Students

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ABSTRACT

This study aims to investigate the effect of integrating AI tools with a flipped learning strategy on improving grammar tenses among Iraqi EFL university students. The following questions were set: (1) To what extent does the integrated AI-Flipped Learning model improve Iraqi EFL students' scores on a standard grammar test? (2) How does the model influence students' accuracy in using correct tenses in writing tasks? (3) What are Iraqi EFL learners' perceptions and experiences of the AI-Flipped Learning model?

The participants were 60 male and female students from the Department of English, College of Basic Education from Babylon University in the first semester of academic year 2025–2026. The participants were assigned to experimental and control groups. The grammar tenses tests (Pre-test and Post-test) consisted of 50 items, and the Technology Acceptance Model was used as an instrument. A quasi-experimental, pragmatically driven mixed-methods design was used. The study showed that bringing AI-driven feedback into the Flipped Learning model is an effective method for solving the challenges for Iraqi EFL learners with English tenses. The experimental group showed significant quantitative gains on a standardized grammar test and the tense-based writing, supported by learners' oral reports of increased autonomy, confidence, and engagement.

KEYWORDS: AI tools , Flipped learning strategy , Grammar tenses.

مقالة بحثية

أثر دمج أدوات الذكاء الاصطناعي مع استراتيجية التعلم المقلوب على تحسين قواعد اللغة الإنجليزية لدى طلاب اللغة الإنجليزية كلغة أجنبية للعراقيين

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المخلص:

هدفت هذه الدراسة إلى تقصي أثر دمج أدوات الذكاء الاصطناعي مع استراتيجية التعلم المعكوس في تحسين إتقان الأزمنة النحوية لدى طلبة الجامعات العراقيين دارسي اللغة الإنجليزية كلغة أجنبية. وقد صيغت أسئلة الدراسة على النحو الآتي: (1) إلى أي مدى يسهم نموذج التعلم المعكوس المدمج بالذكاء الاصطناعي في تحسين درجات طلبة اللغة الإنجليزية كلغة أجنبية في اختبار معياري للقواعد؟ (2) كيف يؤثر هذا النموذج في دقة استخدام الأزمنة الصحيحة في مهام الكتابة؟ (3) ما تصورات وخبرات متعلمي اللغة الإنجليزية كلغة أجنبية في العراق تجاه نموذج التعلم المعكوس المدعوم بالذكاء الاصطناعي؟

تكوّنت عينة الدراسة من (60) طالباً وطالبة من قسم اللغة الإنجليزية، كلية التربية الأساسية، جامعة بابل، في الفصل الدراسي الأول من العام الجامعي 2025–2026. وجرى توزيع المشاركين على مجموعتين: تجريبية وضابطة. تألف اختبار الأزمنة النحوية (اختبار قبلي واختبار بعدي) من (50) فقرة. واعتمدت الدراسة تصميمًا شبه تجريبي ذي توجه براغماتي قائم على المنهج المختلط. وأظهرت نتائج الدراسة أن إدماج التغذية الراجعة المعتمدة على الذكاء الاصطناعي في نموذج التعلم المعكوس يُعد أسلوباً فاعلاً في معالجة الصعوبات التي يواجهها متعلمو اللغة الإنجليزية كلغة أجنبية في العراق فيما يتعلق بالأزمنة. كما حققت المجموعة التجريبية مكاسب كمية دالة في الاختبار المعياري للقواعد وفي مهام الكتابة المعتمدة على الأزمنة، مدعومة بتقارير شفوية للمتعلمين أشارت إلى زيادة الاستقلالية والثقة والانخراط في التعلم.

الكلمات المفتاحية: أدوات الذكاء الاصطناعي، استراتيجية التعلم المقلوب، الأزمنة النحوية.

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Introduction

With its unique global standing, English is the common language of communication in academic, commercial, and technical circles. It remains an integral part of education in the 20th century. [1, p.18-19]. Here, grammar is not the end point; it is a means of organizing thought. It assists learners in establishing clarity, accuracy and fluency [2, p.96] by means of which they acquire the ability to use the language on their own. The correct use of grammar is one aspect of language proficiency. It enables students to understand and speak language that goes beyond basic phrases. It is for this reason that the teaching of grammar has been seen as central in English as a Foreign Language (EFL). However, it is also among the hardest things to do, this is especially true if the learners' L1 causes major interference [3, p.viii].

The obstacles faced by English language teachers in Iraq are not significantly different from those faced in non-native English-speaking countries. There are numerous challenges in teaching grammar, which poses a major obstacle due to the difference in linguistic systems and the influence of the mother tongue on learning English grammar rules. Therefore, teaching requires the use of strategies to facilitate effective language learning for communication [4, p.48-55]. The teaching methods upon which learning the English language depends are the teaching of grammar and translation methods, which are based on the teaching Grammar and teaching translation strategies that is based on the tradition method called "Grammar Translation Method". The teaching methods were finally teacher-centered approaches which have been widely criticized in the wider literature [5, p.16-17]. They are inclined to passive learning and give preference to knowledge of rules above use of language. The emphasis is still only on getting through exams. This phenomenon, as Al-Jarf [6, p.106-107] points

out, "drains the development of authenticity in grammar use in real writing or speaking. The result, therefore, is a kind of disconnect in the Iraqi classroom: students could learn grammatical rules but are unable to apply them functionally.

Learning English tenses can cause significant problems in learning grammar and language functions. Students who speak English as a foreign language often struggle with this. The reason, it turns out, really boils down to some rather profound differences between the languages. Arabic verb forms mainly represent aspect, whether an action is done or not. Time is a part of the system as such, the English constitution is stiffer and more complex. The tense is layered grammatically over aspect or the 'texture' of an action [7, p.18-21]. Abu-Akel [8, p.6] also discusses the tense-aspect errors, noting that this is the particularity of intermediate and advanced Arabic-speaking learners. Actually, it takes a change of opinion, rather than simply learning other rules by rote. Flipped learning and AI in language learning are just two major research contenders for these in-depth situations in low-resourced contexts. This method differs in language learning as it is characterized by individual or personal learning and achieves greater benefit than learning within the classroom, since the student is the focus of the teaching and learning process and controls the learning tools according to his needs from diverse sources. It also makes it easier for the student to learn at the time and place of learning, as it is not limited by time or place and the student can use it at any time and place. While outside of class, students watch tutorial videos that delve into grammar and the classroom transitions to something like a workshop.

Learners can practice language usage or problem solving collaboratively [9, p.103], and this appealing approach might get students away from drill in grammar towards communicative use [10, p.90], while quickly

evolving AI tools like Automated Writing Evaluation software and intelligent tutoring chatbots have been providing immediate, individualized feedback and scalable out of class practice which is particularly relevant when the student-teacher ratio becomes high [11, p.705].

Technology supports flipped learning, as the learner can use technology to obtain information and guidance, and it can also be used to develop listening skills by controlling and repeating listening material. Technology can also be used to develop language skills, grammar, and language functions, and technology can even be used to create virtual communicative interaction. [12, p.540-542].

A number of studies have examined the potential of Flipped Learning as a standalone and AI in generating positive impacts on EFL in different contexts; nevertheless, a noticeable space persists. Regarding studies exploring the use of artificial intelligence tools in Iraq, the research phase is still ongoing at all levels (schools and universities), particularly concerning the use of AI tools in learning and teaching English. Nowhere is this discrepancy more apparent than in the case of a well-known linguistic hurdle: the English tense system.

Previous work in the region has generally looked at overall technology adoption, or general effectiveness of Flipped Learning, rather than a combined use of these two approaches to address specific area(s) in need for improvement. The contribution of this paper is to fill the gap by examining whether an integrated AI-Flipped Learning approach can serve as a good pedagogical intervention. It seeks to improve the explicit knowledge and use of English tense by Iraqi students at university level. To achieve the aims, the following research questions were formulated:

1. To what extent does the integrated AI-Flipped Learning model improve Iraqi EFL students' scores on a standard grammar test

compared to peers taught through traditional methods?

2. How does the model influence students' accuracy in using correct tenses in contextualized writing tasks?

3. What are Iraqi EFL learners' perceptions and experiences regarding the integrated AI-Flipped Learning model?

This study presents a focused, evidence-based investigation into how a targeted AI-supported Flipped Learning model can facilitate the mastery of six key English tenses for Iraqi EFL students. It also provides practical ideas for teachers, contributing to an unexplored area in a marginalized context and addressing the implications for teacher training and technology adaptation.

2. Literature Review

Theoretical Foundations

Flipped Learning is based on Constructivism and Social Learning Theorists such as Vygotsky (1978) contributed to the theory of constructivism, although from an archetizing perspective; that is, from their point of view learning is constructed by learners on their basis of experience and reflection. They do not just receive knowledge from a teacher. The concept of Vygotsky's Zone of Proximal Development (ZPD) is relevant to the concept of flipped learning [13, p.102]. It is about what a learner can do without help and what they are able to do when guided. In a traditional grammar class, teachers typically teach at the average of a single ZPD; this means that many kids are bored. In the flipped case this situation is completely inverted.

For one thing, students get to learn tense rules on their own time through video lectures, readings or interactive modules. Using technology to develop listening skills allows learners to play, replay, and listen to educational materials multiple times, providing an opportunity for self-directed learning supported by feedback. This method motivates learners to engage in active learning,

moving them away from the traditional lecture setting. By using technology, students can communicate with their peers, discuss issues, and practice under the teacher's guidance. Through this process, they compare and refine their initial understanding (self-directed learning) by comparing it to technology-enhanced learning and artificial intelligence tools, thus stimulating language learning. It compels students to explain their thinking, negotiate for meaning, and get immediate corrective feedback. An Industrial Training Institute is the 'leading player' here, and its teacher shifts from the "sage on the stage" to the "guide on the side" [14, p.30-35]. Practicing to transform tense rules into an actual communication skill in a social interactive context, such as the flipped learning.

One of the ways to envision this is through Bloom's Revised Taxonomy, where we can see the cognitive redesign of Flipped Learning. This is an example that illustrates why the model can be applied to more complex skills, such as tenses. The instruction in traditional grammar, especially in systems where heavy exams predominate like Iraq's, It can easily get bogged down at low levels of thinking where students are content with memorizing and understanding rules. The flipped approach gets basic learning outside class [15, p.335], unchaining class time for higher order tasks [16, p.320], while AI tools like AWE systems furnish scalable, personalized feedback that gets Iraqi learners beyond memorization and toward genuine language production.

Dizon and Gayed's [17, p.102829] review supports this observation, noting that AWE systems "have an effective instructional design which cultivates L2 English writing. The AI functions as a 24/7 tutor, catching mistakes and giving practice, more often a second time. This does a far superior job of preparing students for collaborative class work. All of this comes down to this prelude and, as Chen

Hsieh et al. [18, p.10] insisted, "The key to the success of the flipped classroom is: Do students conduct their pre-class work?" What AI tools are doing is make it more interactive and responsive in a way that increases the likelihood that students will actually show up ready to attack those higher-order tasks flipping involves. Finally, the TAM model may be enriched with an area which remains inadequately examined: adoption using as a boundary object.

Flipped Learning in EFL: Global and Regional Perspectives

There are abundant studies on Flipped Learning in EFL. There were also only a limited number of regional studies from the Middle East. The pedagogical benefits are obvious, but the implementation has been the biggest challenge. Literature of the region shows how such problems future there in a specific context.

In 2024, Hava's [19, p.153] evidence review of 30 studies found the major advantage "is in its potential to improve students' writing and speaking skills, and other school-related outcomes. These lessons both spend a lot of time on practicing active skills in class.

There is also relative lack of important work in research in the Middle East and in Iraq. It is an illustration of how theory and reality are far apart, that practical application is such a far cry from what they envisage. In research carried on by Namaziandost [20, p.130-132] regarding "AI-enhanced flipped learning" in Iran, significant improvement was found in writing ability and metacognitive knowledge. This indicates that this is a region where the joint model could be functioning. But Iraq is a more nuanced position. The education culture is extremely teacher-driven. It rests on high-stakes grammar-translation means. As Celik has observed: "The curriculum is viewed as a 'textbook that needs to be taught' and how subjects are learned and what is required to learn a subject is often dismissed" [23, p.25].

Success is learning facts to regurgitate on tests. This turns a process centred and user experience against student centred models. Second, Iraq suffers from wide systemic infrastructure failures. Decades of combat and underinvestment have caused crowded classrooms. That's why, too, the interactive kernel of FL is really difficult to tame. Maybe even more significant is the disparity in access both to technology and the internet. The tech-integrated teaching's benefits are found in some studies, but these aren't widespread. Studies emphasize a crucial point: the use of foreign languages in Iraq is not limited to academic learning; rather, it requires lifelong use. For learning to be effective, tangible, original printed materials must be prepared, teachers must be trained to develop their competencies, and these materials must be adapted to suit large classrooms.

Artificial Intelligence in Language Learning (AI-LL)

What is the advantage of learning a new language using AI? In AWE tools like Grammarly and QuillBot, this phenomenon is particularly visible. The latter are NLP and ML-dependent systems, which is to say that they involve natural language processing and machine learning methods. They provide rapid, tailored, and scalable feedback. On the flip side, the literature suggests a very limited depth of understanding of grammar, especially on the whole, when compared to the above. Findings from AWE research are generally positive but mixed. There is evidence that inclusion of AWE feedback is effective in enhancing writing quality, especially with respect to surface-level features.

Although AWE is an attractive resource for tailor-made grammar training, the use of AWE in this model needs to be approached cautiously. This is not a replacement for the teacher, but a peer for form-oriented practice and preparation. An important research question is its special effect throughout Iraq.

Finally, this study fills a notable gap in the context of teaching English as a foreign language in Iraq, which is characterized by a traditional approach. exam-based teaching in which students have struggled for years not understanding how to use the English tense system. To that end, it proposes a combined AI-supported Flipped Learning system that allows personal form practice and communicative application, providing a contextualized and evidence-based approach that the existing single interventions have not managed.

Research Methodology

Research Design and Paradigm

The research design is a quasi-experimental, pragmatically driven mixed methods one where pre/post test results were triangulated with follow up qualitative data aim to track learning gains in an authentic classroom context and concomitantly explore learners' experiences so as to uncover the full extent of the AI supported intervention.

Context and Participants

It was performed at the English Department of Babylon University, during the spring semester of 2025–2026 where 60 Iraqi intermediate-level EFL undergraduates were randomly assigned to intact experimental and control classes since it adhered to all ethical protocols (i.e. committee approval, informed consent, voluntary participation and confidentiality) as an AI-enriched Flipped Learning intervention in a standard LARGE teacher-centered Iraqi university context.

The Intervention: The AI-Flipped Learning Model

The AI Tool: Selection and Implementation

The study opted to use Grammarly as its AI tool due to the evidence of its effectiveness in developing written proficiency, its capability for providing instant personalized feedback and availability for students with limited internet access; participants were given a 90-minute training session on how to use it

and were provided ethical guidance highlighting that the role of Grammarly was a supportive, not corrective.

The Flipped Model Structure: A Detailed Example

The intervention was a 12-week course module of six English tenses. Each aspect followed the same sort of twisted cycle.

Week 4 Example: The Present Perfect Tense
Pre-Class Phase (Experimental Group): Students visited a private learning web space. Teachers supplied:

- 1) a teacher-created instructional video lecture (8-10 minutes). Instead It taught how to use the present perfect. It covered basic concepts such as unfinished time and life experience, while juxtaposing it with the simple past.
- 2) Guided worksheet with exercises (fill in the blank, error identification). Students did the worksheet first. Next, they typed their responses into Grammarly to get immediate feedback on form. For example, "Have you went" would be corrected to "Have you gone." They saw mistakes, and they thought about one mistake in particular that rang true.
- 3) A discussion forum prompt such as What is one thing you learned this year? They were required to write an original sentence using the present perfect and in response post one comment to a peer. The term was to put their writing in Grammarly before posting it.

In-Class Phase (Experimental Group): The 90-minute class focused on active use:

1. Quick Clarity (10 mins): The instructor addressed common mistakes from the forum and Grammarly.
2. Collaborative Analysis (25 mins): In pairs, students analyzed short narratives. These contained both correct and incorrect uses of the present perfect. They had to give reasons for their judgments.
3. Scenario-Based Task (40 mins): Groups did "job interview" role-plays. Interviewers asked present perfect questions ("Have you ever

worked in a team?"). This pushed spontaneous, contextualized use.

4. Focused Peer Review (15 mins): Students swapped paragraphs from a homework assignment, already checked by Grammarly. They gave feedback on content, moving beyond just grammar to meaning.

The Control Group Procedure

The comparison group acquired the same grammar, for example the present perfect, in a traditional manner. Their 90-minute class was largely teacher-centered. The teacher wrote rules on the white board. Then there were choral exercises, and individual workbook practices carried out silently in class. Homework was more problems from the textbook. The teacher gathered and graded it, returning feedback the following week. This model adapted the conventional grammar-translation method still prevalent in Iraqi EFL classrooms [23, p. 30-32]

Instruments for Data Collection

Grammar Tenses Test (Pre-test/Posttest): It was composed of 50 items and they came from a reliable source such as: the Oxford Placement Test and old TOEFL modules. Similar students were piloted the study to ensure reliability. It had a Cronbach's alpha greater than 0.78. It had three elements that tested overt learning: Form (producing correct verb forms), Meaning (choosing verb tenses based on time words), and Use (selecting a tense in response to dialogue). The objective data for RQ1 was provided by this test.

Timed Writing Task: This study provided this post intervention. Students received a narrative prompt such as: "Describe an accomplishment, event or realization that sparked a period of personal growth and a new understanding of yourself or others" or "Discuss an accomplishment, event or a realization that sparked a period of personal growth." That effect was intentional, as they were aiming to drag out the learners in a more natural use of various tenses, including the present perfect.

They were given 45 minutes to write a 250-word essay. This investigation scored accuracy according to a unique tense-use rubric. Points were awarded for the correct and appropriate use of each target tense, independent from other aspects such as spelling. This was to give data on practical use for RQ2.

Student Perception survey and interviews:

After the intervention, the experimental group got a 30 item Likert-scale survey (1=Strongly Disagree to 5= Strongly Agree). It was based on the Technology Acceptance Model; It featured Protomus (e.g., “Grammarly was helpful in helping me understand my mistakes”); Perceived Ease of Use (e.g., the instructions for the flipped class were clear); Engagement (e.g., “In-class activities were more interesting”) and Challenges (e.g., “I had technical problems constantly”). This was next accompanied by semi-structured interviews with a purposively selected sub-sample (n=10) in this study. Their survey responses were diversified among the students in this group. Interview questions dug deeper. This study asked questions such as, “Can you describe a time when the AI feedback was confusing or especially helpful?” and “How does the group work with grammar compare to how you usually learn about grammar?” This mixed-methods approach was designed to explore RQ3 in-depth.

Data Analysis

The data analysis process, which was guided by a sequential mixed-methods plan with sequential quantitative steps initially conducted in SPSS (Version 27) for addressing RQ1 and RQ2 using descriptive statistics, Independent Samples t-tests, paired t-tests, together with an ANCOVA that adjusted for pre-test differences provided a more precise estimation of the intervention’s effect, kept and maintained the pragmatic characteristics of this study. For RQ2, the tense-accuracy scores of timed writing task were compared with an Independent Samples t-test. For RQ3, the

survey results were analyzed using descriptive statistics and were thematically analysed in terms of Braun and Clarke’s (2006) six-phase framework to produce code and theme generating data revealing learners’ perceptions, difficulties and experiences. Qualitative layers of analysis added depth to the quantitative data, providing richer descriptions of the ways in which students experienced and made sense of the AI-Flipped Learning model.

Results

The investigation involved a total of 60 undergraduate participants at the intermediate level from the Department of English at an Iraqi public university. Participants were divided into either the Experimental Group, EG, who received the AI-FL intervention, or the Control Group, CG, who were given the more traditional instruction. Table 1 is intended to essentialize the demographic composition of the sample.

Table 1. *Participant Demographic Characteristics*

Characteristic	Experimental Group (n=30)	Control Group (n=30)	Total Sample (N=60)
Mean Age (SD)	20.5 years (0.91)	20.3 years (0.87)	20.4 years (0.89)
Gender			
- Male	18 (60.0%)	20 (66.7%)	38 (63.3%)
- Female	12 (40.0%)	10 (33.3%)	22 (36.7%)
Year of Study			
- Second Year	17 (56.7%)	15 (50.0%)	32 (53.3%)
- Third Year	13 (43.3%)	15 (50.0%)	28 (46.7%)

To ensure that any subsequent differences after the intervention might be attributed to the

pedagogical model itself and not pre-existing differences, an independent samples t-test was conducted on the pre-test grammar scores. The analysis assured there was no statistically

significant difference between the two groups at the baseline, with $t(58) = 0.341$, $p = .734$. The results of the pre-test are shown in detail in Table 2.

Table 2: *Preliminary Analysis of Group Equivalence on Grammar Pre-test*

Group	n	Pre-test Mean (M)	Standard Deviation (SD)	t-value	p-value
Experimental	30	52.67	8.41	0.341	.734
Control	30	51.90	9.02		

Research Question 1: Impact on Grammar Test Scores

RQ1 probed the degree to which the integrated AI-FL model improved the explicit knowledge of English tenses among students compared to

traditional ones. Descriptive statistics of pre-test and post-test scores, including calculated mean gain, are shown in the following Table 3:

Table 3: *Descriptive and Inferential Statistics for Grammar Tenses Test Scores*

Group	Test Phase	Mean (M)	SD	Mean Gain (Δ)	Within-Group Comparison (Paired t-test)
Experimental (n=30)	Pre-test	52.67	8.41	+18.26	$t(29)=12.14$, $p<.001$, $d=2.22$
	Post-test	70.93	7.85		
Control (n=30)	Pre-test	51.90	9.02	+6.43	$t(29)=5.87$, $p<.001$, $d=1.07$
	Post-test	58.33	8.76		
Between-Group Comparison				ANCOVA Result	
				$F(1, 57)=45.18$, $p<.001$, partial $\eta^2=.442$	

As in Table 3, while both groups and gained statistically to significantly degree from pre-test to post-test (within-group d were large in each case), the Experimental Group gained significantly more than the Control group ($\Delta=+18.26$ for the Experimental Group; $\Delta=+6.43$ for the Control Group). Post-test scores as far as post-test is concerned, an ANCOVA was run with the initial proficiency as a covariate. The output was significant at $p < .001$, and large effect size, partial $\eta^2 = .$

442; thus, the AI-FL model was successful in producing a greater enhancement in explicit grammatical knowledge.

Research Question 2: Impact on Contextualized Writing Accuracy

RQ2 focused on grammatical knowledge transfer to productive writing. Both groups took a timed narrative writing test post-test, scored with an analytic scoring scale focused exclusively on tense accuracy (0-25). Inter-rater reliability was high, Cohen's $\kappa = .87$. Between-group

comparison results are C presented in (Table 4).

Table 4: *Analysis of Writing Task Tense Accuracy Scores*

Statistic	Experiment al Group (n=30)	Contr ol Group (n=30)	Inferenti al Test Result
Mean Score (M)	18.47	13.20	Independent t-test:
Standard Deviation (SD)	3.12	3.85	$t(58) = 5.87$
Score Range	12 - 24	7 - 20	$p < .001$
Effect Size (Cohen's d)			$d = 1.52$

Independent sample t-test found a statistically significant difference between the two groups at $p < .001$ (The Experimental Group's Mean score was much higher than the Control Group, $M = 18.47$ and $M = 13.20$). The huge effect size $d = 1.52$ shows that the AI-FL model was not just a proxy to teaching tense rule but it also helped learners to use the taught concepts more accurately in real contextualized writing material.

Research Question 3: Student Perceptions

RQ3 was concerned with how Iraqi EFL students perceive and experience the difficulties and advantages of AI&FL model. Accordingly, we examined data from a post-intervention survey ($n=30$) and follow-up semi-structured interviews ($n=10$).

Results of survey: Strongly positive trends are evident through a Likert-scale survey, but also highlights some important practical issues.

Engaging and Helpful: 83% of participants rated "The flipped classroom activities were more engaging than regular lectures" as agree/strongly agree, and 77% agreed that "Using Grammarly for pre-class exercises helped me understand grammar rules better."

Perceived Learning Move: Seventy percent responded "I felt more responsible for my own learning in this model," indicating a move related to learner independence. Challenges: This reflects the infrastructural issues identified in literature review where 40% "sometimes encountered 'occasional internet connectivity problem' stopping them accessing pre-class materials here. A third of students (33%) also noted that "it was sometimes difficult to understand all of the feedback from Grammarly", perhaps reflecting earlier struggles in digital literacy.

Themes of Interviews: Qualitative analysis of the interviews complemented the results from the survey, and identified four major themes, with sample quotes.

Increased Confidence and Self-Reliance. Students frequently mentioned increased confidence as a result of feeling more prepared for class. The sense of readiness brought by AI providing feedback for their pre-class work was motivating them to engage.

"I used to sit through class and just listen, get very confused. Now I give up with my video notes and what Grammarly gave me to look over. Even if I was going astray, I knew why. So when a teacher asks me a question, I can answer." (Participant E07)

"It taught me how to rely on myself. I had to listen, do problems, and check answers. It sort of helped cement it in my brain a little more with the grammar." (Participant E12)

Recognition of the Value of Immediate, Personalized Feedback (AI).

Rapid and specific AI feedback was especially praised as an advantage over being graded by delayed teacher judgment.

"The most important thing was the immediate correction. You type and the green or red lines appear immediately. "So often when you do an exercise in a textbook, you do the exercise, hand it to the teacher and get it back next week by which time you've forgotten what you wrote." (Participant E22)

"It was like a one-on-one tutor. It taught me that my main problem was with present perfect, the so-called tense of non-completion. Whenever I misused a "has" or "have," it was present. It focused my practice." (Participant E15)

Challenges: Connectivity and Digital Literacy.

The elements of challenge also supported survey items and highlighted on-the-ground realities of the Iraqi context.

"The internet was very slow at home sometimes and I couldn't watch the video smoothly. I had to rely on my mobile data, which costs a lot." (Participant E04)

"It was a very confusing program at first, Grammarly. 5 It was telling me stuff I didn't know, such as 'article use' or 'wordiness.' I had to take the first session with the teacher to show how to use it properly as a learning tool and not just click 'fix all.'" (Participant E19)

The Transition from Passive to Active Learning.

Students vividly contrasted the active and collaborative environment of flipped classroom with their prior passive learning experiences.

"In regular class, it's only one way: teacher talks, we write. Here, class time was about doing. Which tense was right in

a story that we argued about, games, interviewing each other. Time passed quickly." (Participant E10)

"The method showed me that grammar isn't just rules on board. It is for our experiences and thoughts. The tenses became less frightening once we did them together as a group." (Participant E25)

Evidence exists that students improved. They were able to master the English tenses more effectively. They wrote with more accurate tense usage as well. The AI Flipped Learning model skyrocketed confidence, supported active learning, and leveraged immediate AI feedback, yet its success ultimately is dependent on overcoming infrastructure and digital literacy barriers, showing that while the approach has strong potential to unleash, its long-term effectiveness is dependent on supportive real-world conditions.

Discussion

The results showed that incorporated the AI and flipped learning model outperformed significantly. Explicit tense knowledge (RQ1) was enhanced. They also improved context accuracy for writing (RQ2). The first stands as the Personalized Learning Theory that explains the AI section. Tools like Grammarly provided instant feedback on pre-class work. This provided a low- stakes practicing context customized to the particular mistakes made by each student his finding answers to RQ3 where students favor the "immediate correction. They dubbed it a "personal tutor." This was customized practice, and it meant that the students were walking into class prepared. They weren't merely in no hurry as passive listeners. And they were beginning to self-correct. This preparation is key. As [18, p.20-21] describe as 'what makes a flipped model work. (2) The on-site "non-flipped" sessions were effective,

in part, due to having been informed by Constructivist and Social Learning theories, albeit with some elements of (Bloom's Taxonomy). Before each class, we went over basic rules so that during online classes, we could spend our time collaborating. Instead, students were solving problems with one another. They talked it and peer-reviewed it [13, p.79]. This transformation took their thinking from reproduction to application and then at a higher level [15, p.320]. These quantitative data are very much supported by the qualitative data in RQ3. Students say that you go to class and "do" and "argue." They depended on grammar for word transmission. This was an alternative to the old model of Expect, in which "teacher talks, we write." AI enhancement is strong during personalized learning. In comes the flipped classroom as mankind's sandbox for that knowledge. This confluence leads to true internalization. The test score is also significant but the student's perception in RQ3 is more relevant. Additional student engagement, confidence and favorable attitudes towards active learning in accordance with the collective international understanding of what the flip purports [16, p.17; 19, p.163]. Thus, the model idea must be potentially repeatable. But the barriers are immense. Problems like shaky internet service or early hiccups in the introduction of digital tools are Iraq's issues that no one else is going to solve. These are not tiny footnotes. Any operationalization will rely on exactly these sorts of variables.

The outcome gives power a key issue in the literature: There is not adequate infrastructure and there is a lack of tech-savvy teaching experience. While 40 percent of students have access issues, the digital divide is in fact a major problem to

equity in Iraq. Likewise, however fearful some pupils were in the beginning at having feedback from a computer may be a sign that there's been a long-time lack of guidance about the digital literacy.

Diñçer and Polat's [16, p.325] study, successfully done in flipped groups ("The result of the study showed that students in experimental groups greatly out-performed control groups"), substantiates our dramatic increase in grammar scores. The higher level of precision is consistent with studies by [22, p.20] and [21, p.10] on AI writing tools. But it also hints that they would be even more effective as part of a comprehensive teaching system, rather than in isolation. More significantly, this study provides the missing link. Namaziandost [20, p.125] showed how the AI in flipped learning can be successful in Iran also. This study in Iraq shows just that: infrastructure problems are prevalent. It turns out that that's a nice pedagogical synergy. But it also documents actual tensions that must grapple with one way or another. It goes beyond saying that technology can have a 'positive impact' [23, p.36]. What it does instead is more clearly highlight how and why that particular combination, the AI + flipped classroom package might be a panacea to a common, systemic problem in language teaching [24, p.53].

Conclusion

The study showed that the bringing AI-driven feedback into the Flipped Learning model is an effective method for solving the challenges for Iraqi EFL learners with English tenses, which are embedded in the contrast of spoken language between Arabic and English, as well as the rigid teacher guidance. With a quasi-experimental research design for which a

12-week AI-Flipped intervention was used to compare traditional teaching, the researchers found significant quantitative benefits to be experienced by the experimental group, both on a standardized grammar test and the tense-based writing, attired off by users' oral reports toward increased autonomy, confidence and engagement. However, they reported that lack of regular use of the Internet and unfamiliarity with the technology were few factors that were almost never part of the projects design process, and in order to overcome these reasons, project implementers should be responsive to the local situation as there's restriction of the human capital and infrastructure (e.g., digital literacy). The research has important implications for teachers, curriculum designers, policy makers and researchers. For teachers, the study can provide a model for them to rely upon for their own efforts to transition away from grammar translation methods through a widely accessible AI tool, transparent pre class materials, and interactive in class practice underpinned by previous student education. For institutions and policymakers, the findings imply that stronger digital infrastructure is required in addition to high quality teacher training programs to equip educators for designing engaging student-centered pedagogy. To researchers, they provide re-usable instrumentation and a validated design and guidance for future work such as: long-term retention, other levels of proficiency, teacher perspectives, and other AI tools.

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