The role of bell work assignments in expanding EFL learners' vocabulary breadth

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ABSTRACT: The expectations from the teachers have transformed radically in the 21st century, which necessitates using all moments of the lesson efficiently. In this regard, bell work assignments take precedence to make students revise previous topics as a warm-up activity while the teacher is completing official procedures such as attendance, writing lesson plans on the board, or preparing extra teaching tools. Although numerous studies have been conducted to measure the effectiveness of bell work assignments on a global scale, primarily in the USA, a gap in the literature has been realized in the Iraq context for EFL learners at the tertiary level. To this aim, 40 freshman students who were studying in the IT department at a private university in Erbil, Iraq, were chosen via snowball sampling to represent the experimental or control group. Experimental group students received their instruction with a bell-work-enriched format, whereas control group students followed the curriculum in an orthodox format. The data collection lasted 12 weeks in the spring semester of the 2022–2023 academic year in the Academic Debate and Critical Thinking course. Gathered data through vocabulary exams, interviews, and questionnaires revealed that bell work assignments offer tremendous opportunities to enhance vocabulary knowledge and develop problem-solving and critical thinking skills, apart from increasing motivation and concentration. The findings of this study can have practical implications for stakeholders who contemplate that bell work assignments can be used efficiently as a formative assessment instrument on a global scale.

KEYWORDS: bell work; critical thinking; problem solving; vocabulary enhancement

1. Introduction

Several stakeholders, such as policymakers, practitioners, educators, and parents, play fundamental roles in increasing the success rate of educational institutions at all stages. However, teachers' credentials are considered more vital than others, thanks to their primary responsibilities at institutions. Their indispensable responsibilities lie in bridging the gap between known and unknown, so students can merge existing knowledge with novel information to elevate their levels. In other words, students are like thirsty plants that can be rained on with the expertise and close attention of the teachers. Accordingly, vitally important tips are prevalent to tailor the instruction in a way that addresses students' individual and collaborative needs, respectively. To illustrate, Wong (2009) elucidates that there is a causal relationship between a lack of discipline and impractical classroom procedures. More specifically, he underlines that effective teachers should know how and when to explain, rehearse, and reinforce so that students can follow the procedures enthusiastically. Likewise, Aldrup et al. (2022) postulate that effective

teachers should be consistent throughout the year, thereby increasing the chance of obeying the classroom rules unanimously. Otherwise, it can be inevitable to come across some conflicts that affect the positive learning atmosphere adversely. Similarly, Kemaloglu and Sahin (2022) state that conscientious teachers should know how to integrate technology into classes harmoniously so the balance between traditional and online learning tools can be maintained. Additionally, Popovych et al. (2022) point out that passionate teachers should design their classes to master 21st-century skills whose importance in academic, social, and professional life is acknowledged. Subsequently, Martinez (2022) holds the opinion that enthusiastic teachers should internalize the value of common sense in conflicting zones in order not to ruin their reputation in seconds. Moreover, Kucuk (2023) highlights that efficient teachers should be masters in employing body language to capture students' attention incessantly. Furthermore, Mart (2013) asserts that visionary teachers should update their knowledge via further research, internal seminars, and local or international symposiums. In the same vein, Wallace et al. (2023) underline that managing time wisely in classes is fundamental to earning the respect of the students and realizing the objectives of the lessons without lagging behind the curriculum. It can be stated that teachers who want to earn the respect of their students should have clear goals and checklists for their profession.

Assessing students' knowledge, skills, and abilities is common at educational institutions, where assessments function as a mirror to reflect students' learning and the success of the educators simultaneously. Although there is a plethora of assessment types, diagnostic, formative, and summative assessments are used more frequently than others for their distinctive features to tailor education so that the needs of educational institutions can be met correspondingly (Ismail et al., 2022). More specifically, diagnostic tests are conducted to measure students' current levels prior to the course or unit, thereby identifying gaps and guiding the curriculum accordingly, while formative assessments are carried out to measure student's progress within the academic year and design the following weeks' to eliminate frequently made mistakes individually or holistically. On the other hand, summative assessments are preferred to come to reliable interpretations by school leaders and policymakers about students' performance at the end of the learning process (Hilden, 2022). To illustrate, diagnostic tests can be run to figure out students' strengths and weaknesses, thereby updating instruction for the betterment of education. Likewise, quizzes and group projects can be used as examples of formative assessments, so educators can analyze students' current levels and take the initiative for the sake of improving their capabilities with efficient amendments. Similarly, final and university entrance exams can be given as summative assessments, so wide-scale comparisons can be made at the district, city, country, or universal level.

Bell work (BW henceforth), which is also known as a bellringer, is a type of short assignment initiated at the beginning of the lesson as a warm-up activity to elicit students' learning about the previous class or gauge their learning about upcoming topics while the teacher is busy with classroom procedures such as taking attendance, writing the objectives, checking the homework, or turning on the smart boards. There are countless practical applications of BW in English classes, such as circling the right option in a multiple-choice format test, writing a paragraph, answering questions with a few sentences, or summarizing the displayed video (Palmer, 2011; Wong et al., 2012). The rationale for integrating BW into classes is to spread effective classroom management practices throughout the whole lesson and gather some preliminary data about students' progress. In addition, students develop habits to race against time and complete tasks on time. Kapici and Akcay (2023) assert that the implementation, grading, and feedback policy of the BW should be set in advance and followed meticulously in order not to have bitter experiences. If the cycle is broken, the failure of the BW assignment cannot be inevitable. Similarly, Cicek

and Tok (2014) postulate that BW assignments are priceless sources to introduce novel information and recall memory, so learners' curiosity is sparked continuously. Thus, BW assignments nurture excellent self-study habits and discipline for the learners by monitoring their common mistakes and updating their knowledge appropriately. Doup (2018) elucidates that BW paves the way for developing 21st-century skills, such as critical thinking, problem-solving, and creativity, once the assignments are designed to foster them.

Fostering 21st-century skills has received increasing popularity in the last two decades. Accordingly, inserting a course into the English curriculum has been considered as a compulsory process which has prompted the rise of Academic Debate. Thus, it is expected to equip learners with the required skills to succeed academically, socially, personally, and professionally. Correspondingly, the Academic Debate course has been designed to nurture a welcoming atmosphere through which participants can express their ideas in a civilized manner (Alen et al., 2015). In addition, they learn how to pay attention to participants' ideas carefully and defend their counterarguments. Subsequently, they figured out some tips to use body language effectively and balance their intonation by sticking to the given time for participants in each session. Apart from managing time wisely and employing body language tricks actively, they develop several 21st-century competencies, thereby being ahead of others in the fierce competition at all stages of life (Pilkington and Walker, 2003; Zwiers and Crawford, 2023). To name a few, joining debates in groups trains participants to learn the value of collaboration and solving problems through the lens of critical thinking. In addition, they can grasp the value of taking responsibility and improving their leadership skills. Similarly, they learn how to develop ICT skills because each debate urges them to research further through millions of websites. Likewise, they cultivate their minds to understand other students' perspectives, thereby strengthening their relationships with each other in their social lives. It is unambiguous that the Academic Debate course has multi-faceted effects on students' lives throughout their lifespans.

Vocabulary is the foundation of language acquisition because it is linked to all macro-skills and micro-skills in English. In other words, it cannot be conceivable to gain English mastery without the ability to connect words logically or choose suitable words appropriately. For instance, students who have poor vocabulary knowledge may struggle to comprehend texts accurately, articulate their ideas in a written form, understand the message in conversations clearly, and convey their ideas in communicative acts convincingly (Celik and Kara, 2022). It is crystal clear that limited vocabulary knowledge forms many barriers, thereby demotivating learners on several occasions. Considering the importance of vocabulary power, the Common European Framework of Reference for Languages (CEFR) pays utmost attention to vocabulary enhancement, so an English course book is inconceivable without setting aside certain pages for vocabulary in a recurring theme for each unit (Teng, 2023; Yuksel, 2011). Similarly, all standardized tests allocate special sections to check the word breadth of the learners for a certain category. Fortunately, there is a wide range of strategies to grasp the meaning of words and use them actively. To illustrate, online applications such as Kahoot and Duolingo sharpen users' skills to learn more words in game-based activities. In addition, teaching English in context develops learners' vocabulary knowledge considerably via reading texts, books, movies, cartoons, podcasts, riddles, collocations, and idioms (Nosirova, 2023). It is evident that vocabulary mastery is a necessity that can be handled in various forms thanks to web-enhanced tools and the availability of knowledge-sharing platforms among educators in the globalized world.

Research significance

Expanding word power is obligatory to express ideas in a written and spoken format. It serves as a passport to cross and explore a wide range of possibilities in the way of being proficient in English. Although its significance has been acknowledged, it does not necessarily mean that all learners have mastered vocabulary. In the same vein, time management is a crucial part of lesson plans to be able to command the class with absolute authority. The research has shown that some chronic problems are prevalent in teaching essential words and managing time effectively (Najar, 2019; Sibanda and Baxen, 2016). Accordingly, this study will fill the void in the literature by focusing on the effects of BW assignments on EFL learners' vocabulary expansion at the tertiary level. Thus, teaching novel words, keeping students active, and training students on improving time management skills will be meticulously explored in the study. The researcher's main goal is to contribute to methodology with novel applications in the Iraq context.

2. Literature review

Classroom management is a multi-faceted term that refers to the action plans of the teachers to keep students alert, arrange a welcoming atmosphere, design activities systematically, and provide the required materials to enrich classes. It is a widely held belief among educators that each second matters to reap the fruits of meticulous planning. In this regard, BW assignments are used to keep students busy with educational activities, so teachers can set aside time for saving attendance, checking homework, or preparing the smart board. Apart from strengthening the classroom management skills of the teachers, BW activities can provide tremendous opportunities to revise previous lessons or measure background information before initiating a novel topic. BW implies short tasks to be completed in a few minutes after the bell rings. Although its history dates back to the 1990s in the USA, its influence has spread throughout the world since the 2000s because technological enhancements have closed the communications gaps among nations, thereby increasing the chance of exchanging information between educators for the sake of enhanced success. Harry Wong, an American science and classroom teacher, has been credited with the advent and spread of BW assignments globally thanks to his pioneering attempts through books, seminars, blogs, and videos. One of his books, *The First Days of School*, has underlined the significance of BW assignments as well as other career-saving tips. It was released in 1991, sold more than 4 million globally, and was translated into six languages. Since then, the popularity of BW has risen substantially because educators around the world have adopted BW assignments and expressed their positive feedback to be role models for other educators. On the other hand, scholars have varied opinions about the effectiveness of BW in classes. To name a few, Abdullsttar (2023) states that BW assignments can be applied to all subjects, which makes it convenient, so monotonous moments to wait for the teacher to complete official procedures can be converted into an engaging and dynamic activity spanning the whole year as a routine. Similarly, Luft et al. (2022) assert that the chance of disruptive behaviors reduces considerably when the teacher has a routine to apply BW and offer feedback as a part of formative assessment. In other words, chaos can be prevalent, which affects the whole lesson and semester negatively. In the same vein, Doup (2018) points out that BW assignments promote students' learning significantly thanks to joining the activity, completing it on time, receiving feedback, and updating their current knowledge based on the feedback. Thus, this cycle is fruitful for both teachers and students. The former grasps the opportunity to measure students' progress and take action correspondingly for the betterment of education, while the latter figures out how to manage time, learn from mistakes, and be more knowledgeable. On the contrary, positive opinions about BW are counter-attacked by some criticism.

To illustrate, Klein (2007) postulates that BW assignments can be dull if they are presented in the same format continuously, so he recommends changing the type of BW activity periodically. Additionally, Lingo et al. (2018) attest that BW can increase the stress level of teachers because creating a novel task for each day is a burden on their shoulders. They suggest that extending the interval between BW can resolve this chronic issue and relieve the anxiety level of authorized educators. Subsequently, Conderman et al. (2020) point out that BW assignments can last longer than expected because each student's pace can vary. They warn that prolonged BW can reduce the time of instruction considerably, so target topics in the curriculum can be covered superficially in the long run due to time constraints.

Conducted research on the effects of BW has unleashed varied implications in different contexts. For example, Palmer (2011) conducted a study on US primary students in a science class to measure the effects of BW, which revealed that BW assignments increased students' marks on standardized tests, increased their enthusiasm in lessons, and developed their problem-solving and critical thinking skills. Another notable study was carried out on pre-service teachers by Burkhart (2014), which revealed that BW assignments help pre-service English teachers revise, rehearse, and learn some valuable lessons during their internship period. They also held the opinion that bell work is an efficient technique to ensure the concentration of the students because they pay attention to all details in the class once tested by BWs. Moreover, Nejati's (2016) study uncovered that daily BWs sharpen students' vocabulary knowledge in the Iran context at the tertiary level because students have ample opportunity to know their gaps and compensate them with well-established plans. Likewise, Kaya's (2015) study showed that reading-based BWs improved students' reading comprehension dramatically after being exposed to daily warm-up tasks in the Turkish context at the tertiary level. Similarly, Onoda (2012) found that daily BWs have the potential to enhance the listening and speaking skills of Japanese students at the tertiary level, thereby paving the way for receiving more satisfactory marks in standardized tests such as TOEFL, IELTS, and PTE. Subsequently, James (2016) conducted a wide-scale study on Omani students, which revealed that daily BWs stimulate students' imagination and creativity in writing classes, so they multiply their chances to get higher marks accordingly. On the other hand, some studies have uncovered conflicting views. For instance, Maurer's (2006) study unearthed that the repetition of daily BWs can be demotivating for students because they cannot motivate themselves to study every single day for a quiz that is supposed to be repeated less frequently. Likewise, Öncül's (2017) study hinted that balancing the time between daily instruction and BW can be challenging for educators. As a result, some topics can be underestimated, thereby reducing students' overall marks substantially.

Research aims and research questions

Classroom management has been taking increasing priority to increase the satisfaction rate of the students and meet educational objectives. Accordingly, BWs are essential to keep students' attention and check their understanding instantly with standardized testing tools. Thus, educators can pinpoint students' weaknesses and modify the curriculum accordingly. Otherwise, there may be discrepancies between students' performance in class and in exams. In other words, educators suppose that they learn precisely during classroom activities. However, their marks may be lower than expected once revision through BW is underestimated. There is an unambiguous rationale for carrying out the current study. Though a plethora of studies have been conducted about BWs, this topic has not been studied thoroughly with EFL students in the Iraq context. The current study examined the impacts of BWs on students' vocabulary expansion in order to address this gap. Correspondingly, research questions were created:

RQ1. What is the role of bell work in enhancing the vocabulary breadth of EFL learners?

RQ2. What are the perceptions of EFL learners on bell work in increasing their motivation and concentration?

3. Materials and methods

3.1. The study

A mixed-methods research design was adopted in this study, which included vocabulary exams, questionnaires, and interviews to collect quantitative and qualitative data, respectively, as visualized in **Figure 1.**
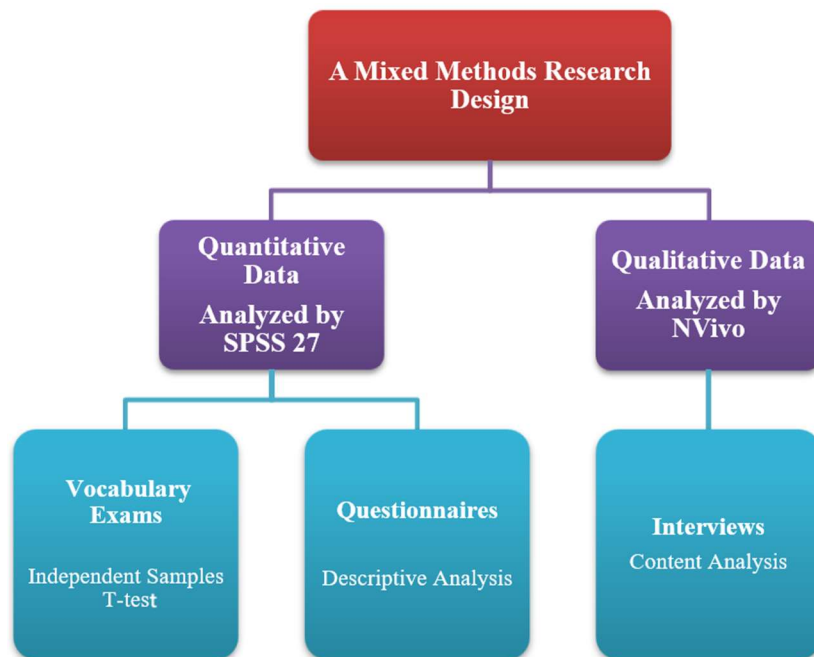

Figure 1. Stages of the research.

Data were collected within 12 weeks in the spring semester of the 2022–2023 academic year. Östlund et al. (2011) point out that a mixed-methods research design helps the researchers get an in-depth analysis, so more reliable interpretations can be made. Vocabulary exams were designed to measure the effects of BWs on vocabulary enhancement, while questionnaires were held to determine whether students' opinions on BWs changed after the intervention based on a 5-point Likert type. Both vocabulary exams and questionnaires were analyzed by SPSS 27, whereas NVivo was activated to transcribe the interviews and cross-check the data. More specifically, independent samples and paired samples *t*-tests were used to analyze vocabulary exams, while descriptive statistics analyzed questionnaires. On the other hand, interviews were analyzed under the principle of content analysis, thereby classifying common themes and highlighting them correspondingly. Vaismoradi (2013) attests that content analysis is plausible to identify, analyze, and report patterns, which can reduce the chance of making false assumptions. The strategies adopted to ensure validity and reliability criteria are depicted in **Figure 2**.
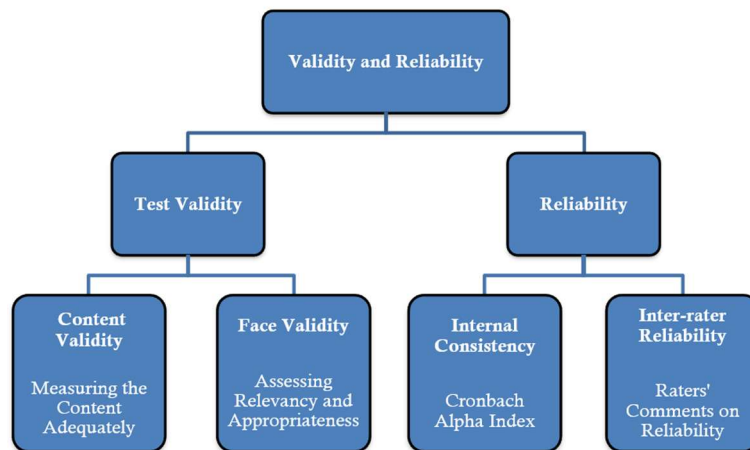
Figure 2. Validity and reliability strategies.

Several instruments were used to ensure internal consistency, face validity, and content validity, as illustrated clearly in **Figure 2**. Proficiency exams, vocabulary exams, and questionnaire items were piloted on other students whose levels were approximately the same as the participants. Accordingly, the Cronbach Alpha index was recorded as 0.78, 0.83, and 0.87 consecutively, which met the internal consistency criteria based on Tang and Babenko's (2014) suggestions. Subsequently, a group of testing experts examined all items in terms of intelligibility and accuracy, thereby paving the way for face and content validity. Some ambiguous items were replaced with easily understood ones, respectively.

3.2. Sample selection

The population of the current study was a private university, which has been operating since 2008, with students in 29 departments amounting to 5000 in Erbil, Iraq. Required permissions were obtained from the authorized body, the Research Center, by elaborating on the steps, data collection tools, and ethical considerations. Research committee members monitored the whole process thoroughly and whether the study proceeded based on the approved research initiation form. In addition, student consent forms were signed by students voluntarily. Four students mentioned their excuses for being excluded, so they were substituted with new members who were volunteers. After that, the population was sampled by employing the snowball technique, which required the researcher to choose primary subjects. In the subsequent phase, they invited additional students with similar characteristics. According to Johnson (2014), snowball sampling is convenient for choosing primary participants and integrating others based on the recommendations of the initial participants. Once forty students were chosen, they were divided into two groups to represent either the experimental group or the control group. Their ages were between 19 and 25, and the number of male students (n = 23) was higher than that of female students (n = 17). There were some common points about the participants whose department was information technology in an Academic Debate and Critical Thinking course. The course has been specifically designed to teach universal values and 21st-century skills in a welcoming atmosphere, so they can address a presentation, organize a question-and-answer session, and embark on constructive debates spanning 3 hours a week. In this regard, collaboration, peer learning, means of hybrid learning, and receiving hybrid feedback were emphasized in each step, so engaging classes could be the norm in the course.

All students received a workshop to become familiar with the procedures of BW assignments, so they could make a comparison between traditional and BW-enriched education without any difficulty.

In addition, the responsibilities of students and the role of the lecturer were emphasized with visually appealing mind maps.

3.3. Instruments and procedures

Upon the completion of internal consistency and validity, their language proficiency was measured with the assistance of the Cambridge Proficiency Exam, which included reading, listening, writing, speaking, grammar, and vocabulary sections with varying items. Once the results were displayed, it was observed that they were divided into two groups in a homogenized format by considering their equal averages. Besides, pre-test exams were run about their background information on key terms of the Academic Debate and Critical Thinking course. After that, the post-test exam was created and criticized by experts, so relevant, coherent, and mistake-free items could be included to check students' progress precisely. Later, the questionnaire was directed to participants about their predictions of BW efficiency in the course prior to the intervention. Once pre-intervention measurements were completed, the lecturer displayed the topics to be distributed to the students in a randomized format. Presentation topics encompassed justice, critical thinking and problem-solving, solidarity, creativity and innovation, honesty, civic literacy, dedication, leadership, responsibility, patience, productivity, accountability, time management, healthy literacy, resilience, flexibility, adaptability, and ICT literacy. The presentation topics were common for each participant, regardless of whether they were in the control or experimental group.

Presentation topics hint that universal values such as justice, solidarity, and resilience were merged with 21st-century skills, including time management, problem-solving, and critical thinking. It can be argued that the characteristics of a good person were examined meticulously, and topics were determined in line with this careful consideration. At the end of the intervention, an interview, a questionnaire, and a vocabulary exam were held to measure the differences between the pre-test and post-test.

3.3.1. Conduct of the lessons in the control group

Control group students received tips on being an effective public speaker from the lecturer with clear examples. Next, the lecturer assigned the topics to each participant to make a brief presentation, welcome questions from the audience, and ask some questions to check the audience's understanding. In the meantime, presenters were granted the freedom to display videos, news, or articles in the blogs to support their arguments. The lecturer's role was to be the facilitator to create a welcoming atmosphere and professionally organize the threads so learners could exchange their ideas independently. Additionally, the lecturer highlighted some fundamental points in each presentation to channel students' energy into those slides. This cycle was resumed each following week until the end of the intervention period.

3.3.2. Conduct of the lessons in the experimental group

Experimental group students delved into tips for being an inspiring public speaker thanks to the mind-blowing speeches of the lecturer. After that, their topics were reflected on the board and printed on the paper, so they could choose one according to their interests. When they came to a decision about their topics, they were inclined to be well-prepared for the presentation, receiving questions and directing counter-question sessions. The lecturer undertook two major responsibilities, which were organizing classroom procedures in the presentation and creating a bell to revise the topics of the previous lesson in the upcoming week. The rationale for creating BW assignments was to create a routine to revise and learn from mistakes. Thus, learners can take the lessons more seriously because their learning rates will be tested systematically and counted as formative assessments. The students took BW assignments in a multiple-choice format while the lecturer was saving the attendance and ordering the presentations of the

students on the desktop. All items in the BW were taken from the presentations from the previous week. For instance, the items related to creativity and innovation were incongruent with the student's presentation from the previous week. Once they were done, the lecturer graded the papers via Zip Grade automatically, so they could learn their results instantly. In addition, the lecturer created a folder for each student's Zip Grade exam paper, thereby giving them the opportunity to scan and notice their mistakes in order not to repeat them again. This activity fostered their communication because they wanted to learn further about their mistakes from the ones who were mistake-free. This cycle continued as long as the intervention period.

Students' genuine opinions were explored through the interviews, so the effects of BWs on their vocabulary expansion can be figured out starkly. In this respect, two open-ended questions were formulated and directed to the participants. The questions are as follows:

- What was your opinion about expanding word power through BWs?
- What is your current opinion about BW enriched education?

3.4. Data analysis

The collected data were analyzed through SPSS 27 and NVivo. To illustrate, students' exam results were analyzed through independent samples and paired samples *t*-tests by employing the features of SPSS. In the same vein, descriptive statistics to evaluate the questionnaire were activated by using frequencies, so minimum and maximum scores, mean, median, and standard deviation were measured accurately to have a clear picture while making interpretations between the pre-test and the post-test. In terms of qualitative data, students' ideas were transcribed, coded, classified, and visualized with the assistance of the NVivo software application. Finally, all types of data were cross-checked to determine whether there were any discrepancies.

4. Results

Three sub-headings were created to analyze vocabulary exams, questionnaires, and interviews thoroughly.

4.1. Descriptive analysis

Participants' vocabulary exam scores were fetched and analyzed through independent samples and paired samples *t*-tests. The former was integrated into the study to compare means in the experimental and control groups, whereas the latter was employed to compare means within each group separately. The analysis was visualized in **Tables 1** and **2** starkly.

Table 1 illustrates that students' vocabulary exam scores did not differ from each other in a significant format once the *p*-value, 0.558, was considered because it was higher than the pre-defined level of significance. However, a noticeable difference was observed in the output measurement with a 0.004 *p*-value. Similarly, overall scores confirmed that experimental group students progressed far better than control group students, as the difference was slight in the control group whereas it was highly significant in the experimental group. These results suggest that BW assignments paid off while covering lessons in a curriculum-based education did not noticeably elevate students' levels.

Table 2 depicts an analogy between the pre-test and post-test scores of control group students. According to the *p*-value of 0.319, there was no substantial progress or reduction because it was higher than the significance level.

Table 1. Independent samples *t*-test results.

Variables	Measurement	*N*	*M*	*SD*	*t*	*df*	*p*
Pre-test	Control	20	57.25	12.822	0.590	38	0.558
Pre-test	Experimental	20	59.50	11.227		-	-
Post-test	Control	20	59.25	8.926	3090	38	0.004
Post-test	Experimental	20	71	14.473		-	-

Table 2. Paired samples *t*-test results of the control group.

		Paired differences							
					95% confidence interval of the difference				
		M	*SD*	*SE* mean	Lower	Upper	*t*	*df*	*p*
Pair 1	Pre-post	−4.250	18.587	4.156	−12.949	4.449	−1.023	19	0.319

According to figures in **Table 3**, experimental group students' progress was significant once pre-intervention and post-intervention scores were compared with each other. More specifically, the *p*-value of 0.000 was noticeable. Thus, it can be argued that experimental group students who followed BW assignment education outperformed the control group.

Table 3. Paired samples *t*-test results of the experimental group.

		Paired differences							
					95% confidence interval of the difference				
		M	*SD*	*SE* mean	Lower	Upper	*t*	*df*	*p*
Pair 2	Pre-post	−19.250	15.328	3.427	−26.424	−12.076	−5.617	19	0.000

4.2. Perceptions towards bell work assignments

Students' genuine opinions about the effects of BW-enriched teaching are explored through questionnaires and interviews in terms of developing vocabulary knowledge, concentration, motivation, problem-solving, and critical thinking. The details are visualized as shown in **Table 4**.

Table 4. Analysis of questionnaires in terms of pre-test and post-test.

Statement	5 = strongly agree	1 = strongly disagree	Pre *M*	Pre *SD*	Post *M*	Post *SD*	*p*
(1) BWs are useful to revise previous topics.			2.50	1.30	4.10	1.08	0.000
(2) BWs are fruitful in increasing my motivation for upcoming topics.			3.18	1.55	4.25	1.06	0.000
(3) BWs encourage me to expand my vocabulary knowledge.			3.25	1.62	4.58	0.781	0.000
(4) BWs urge me to concentrate well on my classmates' presentations.			2.23	1.38	4.53	0.847	0.000
(5) BWs train me to manage my time wisely.			2.43	1.43	4.25	1.08	0.000
(6) BWs sharpen my critical thinking and problem-solving skills.			3.43	1.72	4.18	1.39	0.001

Note: *M* = Mean, *SD* = Standard deviation.
*p value that is statistically significant.

4.2.1. Questionnaires

The findings of the questionnaire shed light on fundamental points, as illustrated in **Table 4.**

Table 4 presents students' opinions on BW-enriched education through reflection on pre-test and post-test means and standard deviation scores. In addition, *p*-values are inserted into the table to measure the difference with another statistical tool. According to item 1, which is designed to determine whether BWs are beneficial for revision, the mean score leaped from 2.50 to 4.10, which reveals a considerable increase in terms of the appreciation of BWs as a revision tool. Likewise, the *p*-value of 0.000 showed a considerable difference between their ideas in a positive way. Subsequently, the second item in the questionnaire was related to the effects of BWs on boosted motivation. The comparison between the pre-test and post-test unearthed that most of the students enhanced their motivation through BWs, so they were inclined to complete such activities and increase their intrinsic and extrinsic motivations correspondingly. In other words, mean scores increased precisely by 1.07 points, as well as having a 0.000 *p*-value. Similarly, the *p*-value of 0.000 confirmed the substantial improvement between the pre-test and the post-test. Subsequently, item 3 was designed to explore the possibility of enhancing vocabulary knowledge with the help of BWs. Considering mean scores, which were 3.25 and 4.58 for pre-test and post-test, BWs enhanced their performance in terms of acquiring new words. Likewise, computed statistical analysis was in line with mean scores, as the *p*-value, 0.000, is significant. Afterward, the fourth item was about the concentration levels of the students, which showed that the more they were exposed to BWs, the better concentration levels they had. The positive difference, 1.30 points, between the pre-test and the post-test hinted that students had more intense concentration during presentations because they would be held accountable for the information they learned in the subsequent lesson as a warm-up activity. The *t*-tests were incongruent with the mean scores with a 0.000 *p*-value. The fifth item in the questionnaire highlighted a crucial skill, which was time management. The findings revealed that BWs trained students to stick to time limits day by day, so they could be able to transfer this skill to other tasks, such as exams, projects, pair work activities, etc. The difference was 1.82 points, and the *p*-value was 0.000, both of which suggest that BWs sharpen students' time management skills drastically. The final item in the questionnaire was about one of the most indispensable 21st-century skills: critical thinking and problem-solving skills. The difference was 0.78 points, which showed that BWs provide sufficient input to improve critical thinking and problem-solving skills. Similarly, the *p*-value was measured at 0.001, which showed significant progress. Considering the findings of all items, it can be suggested that BWs play fundamental roles in expanding vocabulary, boosting motivation, revising topics, sparking curiosity for upcoming topics, and sharpening time management, problem-solving, and critical thinking skills.

4.2.2. Interviews

Participants emphasized positive and negative aspects of BWs, and the highlighted points were given under 5 titles in each category with the number of students and percentages in **Table 5**. The illustrated titles shed light on essential points for noticing the positive and negative features of BWs.

Table 5. Participants' choices on advantages and drawbacks of BW.

Advantages	Frequency	%	Drawbacks	Frequency	%
Restoring memory	10	25	Tedious	2	5
Noticing gaps	4	10	Stressful	4	10
Acing time management	6	15	Time-consuming	6	15
Being more concentrated	12	30	Useless	2	5
Establishing a routine	8	20	Inflexible	6	15
Total	40	100	-	20	50

Table 5 represents students' opinions to clearly differentiate the advantages of BWs from the drawbacks. Once the figures were examined meticulously, it was observed that students' positive feedback (n = 40) was greater than their drawbacks (n = 20). More specifically, participants reiterated that BWs were advantageous in terms of restoring memory (n = 10), noticing knowledge gaps (n = 4), figuring out tips on managing time rationally (n = 6), joining lessons in a more concentrated mood (n = 12), and establishing a routine to learn continuously through the revision (n = 8). In contrast, some drawbacks were emphasized, such as being tedious (n = 2), stressful (n = 4), time-consuming (n = 6), useless (n = 2), and inflexible (n = 6). It can be concluded that the advantages of BWs outweighed the disadvantages by a considerable margin.

Restoring Memory and Filling the Knowledge Gaps

Monitoring the presentations and discussing details in debates have helped the students get input. In addition, retrieval of information in the upcoming lesson has emerged as an advantage to restoring information and storing it in long-term memory. Thus, students have had plenty of opportunities to sharpen their memories. Some statements regarding this theme are as follows:

"Our friends' presentations were informative, interesting, and visually stimulating. In addition, we exchanged our ideas in debates constructively. In the upcoming lesson, we took BW assignments in a multiple-choice format, so we checked our learning and filled the knowledge gaps if the need arose. This recurring theme promoted my understanding considerably. I was more knowledgeable about 21st-century skills and universal values at the end of the study." (St 4)

Knowing the Value of Time and Being More Concentrated Correspondingly

Prior to the intervention, students were introduced to important points of BWs and time management tips. They have held the opinion that practicing BWs and learning time management tips have paid off. Their genuine opinions are as follows:

"The underlying points of BWs were highlighted in the presentations with practical reflections, so we were obliged to know how to manage the time and complete the tasks on time. Thus, we needed to be more concentrated to be punctual. Accordingly, our lecturer trained us to employ some time management tips which worked flawlessly. I can transfer those tips to other exams so that I can solve my time-related problems in exams forever." (St 7)

Establishing a Routine for Self-growth

Setting the steps for BW assignments has urged the students to develop self-study habits for their academic success. Accordingly, pre-defined schedules have increased students' motivation to undertake responsibility and increase their scores gradually. The perspectives of the participants are illustrated as follows:

"Underlining crucial points of BWs has relieved my stress. In addition, I was driven to eliminate my mistakes

and earn my dignity in class towards my lecturer and classmates. Accordingly, I studied ambitiously and realized my goals. I was one of the best ones in each BWs thanks to being organized and following my routine periodically." (St8)

Some drawbacks were cited by some students, albeit not a huge number. They can be used to increase the effectiveness of the program by taking sensible measures.

Dull and Stressful

Taking the same type of assignment and being accountable repeatedly have increased the dissatisfaction of some students, whose ideas are as follows:

"All BW assignments were in multiple-choice format which increased my tension because I am not good at answering questions in a test format. I wish we had more open-ended, matching, or fill-in-the-blank questions. Another problem was the grading system. I think the results of each student should be confidential rather than displaying them on the board, so some students will not be humiliated. Apart from those two points, it was a promising program to revise and strengthen our learning incessantly with a well-established routine." (St 10)

Time-consuming, useless, rigid

Spending a considerable amount of time on each lesson in an inflexible mode has prompted some students to think of BWs as useless. Some of their hesitations are depicted as follows:

"BW assignments were helpful, but they should not have been repeated for each lesson. Instead, we can revise the topics by rehearsal, summary, or other types of practice. Similarly, online BW assignments could be assigned because we are digital natives who like learning from online sources conveniently without being restricted to time and setting." (St 12)

The above-mentioned excerpts clearly suggest that participants took advantage of BW assignments in numerous ways to promote their vocabulary knowledge and develop various skills simultaneously.

5. Discussion

As noted above, the first research question examined whether BWs encouraged the participants to expand their vocabulary knowledge in the Academic Debate and Critical Thinking course. The findings evidenced that experimental group students whose lessons were initiated with BW assignments as a warm-up activity earned far better marks than control group students whose lessons proceeded according to the curriculum. In addition, computed statistical analysis revealed that there was a noticeable difference between the average of control and experimental group students. Based on the findings, it can be argued that substantial gains for the experimental group may be attributed to the BW assignments because they revised previous topics, sparked their curiosity for the upcoming themes, checked their understanding, and learned from their mistakes in order to eliminate them. In other words, focusing on the keywords through BWs provided tremendous opportunities to figure out the words, meanings, and use in contexts. In line with the findings of the study, it can be postulated that participants left their comfort zones to challenge and acquire a number of words for mastery in English. On the other hand, following the lessons monotonously did not yield better results in terms of enhancing vocabulary knowledge.

The second research question explored participants' opinions via the questionnaires and the interviews on whether their attitudes changed after receiving the BW-enriched education. The findings of the questionnaire disclosed that BWs unlocked students' full potential to do meticulous revision, trigger both types of motivation, and widen vocabulary breadth. Similarly, they unearthed that

participants were driven to be more concentrated while following their friends' presentations as they would be held accountable for the words in the presentations. Subsequently, participants underwent a training period to sharpen their time management skills. After that, they elucidated that it was a promising period to develop their critical thinking and problem-solving skills because they were the core elements in each second of the lesson. In line with the findings of the study, it can be postulated that participants' opinions differed substantially after getting the treatment in a BW-enriched format and noticing many benefits, as mentioned above.

The second research question was also investigated by the interviews, which complemented the vocabulary exams and questionnaires harmoniously without leaving any room for doubt. To illustrate, restoring memory was cited as one of the most distinguishing qualities of BW assignments. Moreover, pinpointing the knowledge gaps was another benefit of BW assignments, thereby closing the gap on the way to being a proficient speaker of English. In addition, racing against time for each task forced the participants to learn how to come to a decision on time, so many participants aced time management skills successfully. In the same vein, the majority of the participants reiterated that they were alert during the lessons in order not to miss any points; otherwise, they could make a lot of mistakes in the upcoming lesson's BW assignment. Similarly, many participants attested that they developed a routine for their self-growth, so they improved their skills gradually. On the other hand, some drawbacks of BW assignments were uncovered, such as being tedious, stressful, time-consuming, useless, and inflexible.

The results of the study are congruent with Doup's (2018) and Poljičanin et al.'s (2009) studies, which unearth that BW assignments establish a routine to be well-prepared accordingly, so students are granted ample opportunity to develop their vocabulary knowledge and use it practically to articulate their ideas in written and spoken format. Similarly, Kwan (2011) asserts that revising previous lessons and measuring their retrieval rates by BW assignments go hand in hand to enhance students' word powers and increase their overall capabilities in English. Further, the findings of the study lend credence to those of Mart (2013) and Yucedal et al. (2022), which showed that monotonous formative assessments such as BW assignments and pop quizzes can have adverse effects if their numbers are higher than tolerable levels. They suggest that offering pop quizzes or BWs less frequently can increase their positive effects in the long run. Furthermore, the findings of the current study lend support to those of Lingo et al. (2018) and Nejati (2016), which revealed that BW assignments urge the students to be more alert because they are held accountable for what they have learned in the upcoming lesson. Similarly, Zwiers and Crawford (2023) point out that BW assignments, which are short and systematic, can have far-fetching effects on improving students' problem-solving and critical thinking skills. In contrast, Ghafar et al. (2023) state that BW assignments can be overwhelming and tedious when they are not graded and limited considering students' levels. They suggest that the duration, level of difficulty, and content should be decided in cooperation with other educators, so the chance of making a grave mistake can be reduced considerably.

6. Conclusions

This research purported to investigate the hidden potential of BW assignments in expanding students' vocabulary breadth at the tertiary level in Iraq. Findings revealed that BWs were quite beneficial in revising keywords and checking background knowledge about upcoming topics, thereby increasing their vocabulary exam scores exponentially. The findings of the quantitative data were totally consistent with the qualitative data, so they served one purpose: to highlight the beneficial effects of BW in enhancing vocabulary knowledge substantially without leaving any room for doubt. On the other hand, the traditional mode of instruction did not contribute to a significant increase in terms of vocabulary.

Subsequently, BW assignments changed students' attitudes toward Academic Debate and Critical Thinking courses. To name a few, boosted motivation, continuous concentration, and improving problem-solving or critical thinking skills were other noticeable gains observed by the students. In contrast, some drawbacks of BW assignments were cited as tedious, useless, and time-consuming, which need to be considered seriously so they can be converted into positive ones with an established master plan.

7. Pedagogical implications

Based on the findings of the study, some pedagogical implications are pondered. First, stakeholders in education should negotiate the effectiveness of BW assignments and set a practical plan for the whole process, including the implementation, grading, and providing constructive feedback. In addition, they can consider the implementation of BWs via online or hybrid tools so that monotony can be broken and technology-integrated assessments can be inserted into the system. Second, different modes of BWs can be explored rather than only measuring vocabulary enhancement. Thus, their engagement can be increased dramatically because the activities will not be dull for them. Subsequently, time management practices can be spread to other courses so they can learn how to defy and overcome challenges within the given time. After that, fostering 21st-century skills such as critical thinking and problem-solving can be merged with creativity in BW assignments. Developing students' 21st-century skills may pave the way for being a global citizen, thereby overcoming the struggles of professional life logically. In conclusion, students' enthusiasm increases incessantly as they find more common ground between theoretical knowledge and their daily life experiences.

With respect to the limitations imposed on the study, a range of recommendations for further studies can be put forward. To begin with, the present study included only two groups, which can be enlarged to three groups, so BW assignments, traditional education, and hybrid modes of assignments can be studied thoroughly. In the second place, the current study was confined to students at the tertiary level, which can be extended to other stages such as high school, secondary, and primary level students. Finally, further studies can be conducted to measure the correlation between applying BW assignments in all courses and their GPA (grade point average).

Conflict of interest

The author declares no conflict of interest.

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