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## Strategic Integration of Technology to Foster Students' Learning Outcomes and Motivation in Legal English Lessons

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### Abstract

*This research aims to examine the correlation between the strategic utilization of technology in teaching legal English, a type of English for Specific Purposes (ESP), and students' motivation. To achieve this aim, experimental research was designed and carried out over a semester (15 weeks) with the participation of 52 first-year students majoring in International Business and Trade Law. They were randomly and evenly divided into the Treatment group and the Control group which received teaching methods using technology and traditional teaching methods respectively. The data were obtained using pre- and post-achievement tests and a motivation questionnaire and then analyzed by using IBM SPSS software v26.0. The findings reveal that the use of technology in legal English lessons has significantly enhanced students' academic performance. With reference to motivation, such methods resulted in an overall increase in students' motivation from a pre-treatment moderate level to a post-treatment high level. Remarkably, the motivational factors positively affected by instructional technologies are intrinsic motivation, personal relevance, self-efficacy, assessment anxiety, and self-determination. However, there was no statistically significant change in students' extrinsic motivation before and after the intervention, which was found to be high in the pre- and post-survey. Based on the results, this study advocates for the well-planned, systematic use of technology to teach legal English in particular and ESP in general.*

**Keywords:** Educational technology, ESP, legal English, motivation, ICT.

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## 1. INTRODUCTION

Since its emergence in the 1960s, English for Specific Purposes (ESP) has become an important part of English language teaching and learning, especially in the current context of globalization and economic integration, since it serves as the 'lingua franca' in professional and business settings (Sturcz, 2010). It is a learner-centered approach that addresses learners' needs for language and skills essential to thrive in the field of study or profession of their choice and brings greater job opportunities to them. Studying ESP for students in tertiary education is, therefore, more likely to engender higher motivation levels compared to general English (Basturkmen, 2010). As motivation is an important determinant of how much success learners gain in the long run (Dörnyei & Ryan, 2015; Lamb, 2017), researchers have been interested in finding methods to spur and enhance learner motivation in ESP acquisition as well as improve their learning outcomes.

In the industrial era 4.0, technologies are widely advocated by researchers as a potential pedagogical strategy for developing learning motivation and academic success in teaching and learning English. Mofareh (2019) claims that the use of modern technology, which embraces the creative application of techniques, resources, strategies, tools devices, etc. specifically pertinent to English language teaching, is indispensable and helps achieve the desired objectives. In a similar vein, other researchers have reached a consensus that motivation enhances students' learning outcomes (Ryan & Deci, 2009; Woolfolk & Margetts, 2007; Zyngier, 2008). Regarding motivation, Gordon et al. (2011) argue that a positive attitude toward learning can be fostered using technology. Others further postulate that technology contributes to the improvement of students' motivation and interest in studying English (e.g., Ghavifekr et al., 2016; Passey et al., 2004). Cutter (2015) claims that students are more motivated when working on computers and using modern devices compared to working with textbooks.

Despite being considered to be in its infancy (Dashtestani & Stojković, 2015), research on technological applications in teaching ESP has thrived in recent years and yielded some similar results. Some studies on the utilization of learning management systems, corpora, and wikis reveal their positive effects on improving students' motivation (Hirata & Hirata, 2012), reinforcing learners' technical terms and collocations and academic communicative capabilities (Fuentes, 2007; Hou, 2014), and developing writing skills (Dashtestani, 2014; Felea & Stanca, 2014). Findings of recent research into the application of students' response system known as Quizlet in teaching ESP also show an increase in students' language acquisition and motivation to learn (Setiawan & Wiedarti, 2020). However, there is a paucity of studies on the implementation of technology in teaching and learning legal English - the English language for law students and legal professionals. A research conducted by Yulinetskaya et al. (2021) explores a blended learning model using selected technologies including the online dictionary 'gLAWssary' and recorded videos to develop law students' communicative competence and yield positive results. The other study conducted in the Indonesian context affirms previous research in that the use of the E-module improves law students' learning performance and motivation (Surani et al., 2023).

Despite the ubiquity of smart devices and a myriad of digital tools and platforms for teaching ESP in general and legal English in particular, the potential of educational

technology has not been fully exploited in Vietnam. At Hanoi Law University, a single study addresses the use of Quizlet to boost students' acquisition of legal English terminologies (Nhac & Ngo, 2023). The lack of research on the effects of using technology on ESP students' attainment and motivation, the limited use of technologies in legal English instruction, and the findings by Giang et al. (2023) show that teachers' pedagogical method and use of technology in the ESP course contribute to students' demotivation at the said institution pave the way for this research to be conducted. It aims to explore whether the strategic use of virtual tools can foster academic attainment and motivation in learning legal English in this context. Thus, two research questions were formulated:

1. Does the strategic use of technology affect students' learning outcomes?
2. Does the strategic use of technology affect students' motivation?

## 2. LITERATURE REVIEW

### 2.1 Motivation

Motivation in education has long been a central topic for discussion among researchers and educators. As motivation is a complex, multifaceted concept (Anjomshoa & Sadighi, 2015; Dörnyei, 2001; Gardner, 2006), there is no unanimous definition among researchers who view it from different perspectives: behavioral, cognitive, constructivist, and psychological ones. In language learning, Pintrich and Schunk (2002) describe motivation as a process, not a product, by which activities intended to achieve desired goals are initiated and maintained. In their view, motivation is not directly observed but inferred from students' behaviors. Sharing a similar viewpoint, Anni (2006) claims that motivation is a process within an individual through which a person's behavior is repeatedly activated, directed, and sustained. Keller (2009) simply delineates motivation as people's desires, decisions to do, and commitments to doing something. Crookes and Schmidt (1991) describe motivation as "the interest in and enthusiasm for the materials used in class, persistence with the learning task as indicated by levels of attention or action for an extended duration, and levels of concentration and enjoyment" (p. 263). Though different definitions are put forward, motivation can be generally construed as a driving force within students that ensures the continuity of interest in learning and gives rise to learning activities to attain desired goals.

Motivation can be investigated based on different constructs. This research employs the constructs by Glynn et al. (2009), who categorize them into six components: intrinsic motivation, extrinsic motivation, personal relevance, self-determination, self-efficacy, and assessment anxiety to measure students' motivation to learn legal English. To start with, intrinsic motivation originates from the relationship between the individual and activities. According to Legault (2016), intrinsic motivation is the driving force engaging learners in activities that are innately satisfying or enjoyable. It aims to instigate certain internal beneficial outcomes such as a sense of competence and autonomy. Contrarily, extrinsic motivation applies to any type of regulation not derived from the enjoyment of the activity itself (Noels, 2009). Students engage in learning activities to achieve certain purposes, such as homework fulfillment, good marks, satisfaction with their teachers, or punishment

avoidance. The third component, personal relevance, was formally recognized by Dewey (1913 as cited in [Priniski et al., 2017](#)) as a potential to motivate students and energize learning. As the term indicates, personal relevance refers to the relatedness or usefulness of what students learn and the expected goals they want to accomplish ([Cavallo et al., 2003](#)). Fourthly, self-determination is the learners' capability to make decisions for their learning ([Black & Deci, 2000](#)). Fifthly, self-efficacy refers to confidence in one's capability to perform in a certain manner to achieve certain objectives ([Ormrod, 2006](#)). Finally, assessment anxiety is viewed as the disproportionate emotions generated in situations involving academic assessment due to fear of potential bad performance or dissatisfying results ([Balogun et al., 2017](#)).

## **2.2 Integration of technology in ELT/ESP teaching**

Technology is an umbrella term that covers Information and Communication Technology (ICT) in education. Currently, ICT in education is no novelty to educators and teachers, as it has long been prevalent at aggregate levels of education ([Guri-Rosenblit, 2018](#)). UNESCO (2002) defines ICT as a broad range of technological tools and resources employed for information transmission, storage, creation, sharing, or exchange. These include websites, radio, TV, audio, video players, video-conferencing, just to name a few. ICT in ELT/ESP refers to the use of one or more tools and resources or a combination of these in the English language teaching and learning process.

While some researchers distinguish between technology use and technology integration ([Gunuc & Babacan, 2017](#)), this study uses the two terms interchangeably to refer to the purposeful manipulation of tools, applications, platforms, and resources in language teaching methodology. By this definition, integration of technology in ELT "is equated to CALL (computer-assisted language learning) and its associated allies – MALL (mobile-assisted language learning), WELL (web-enhanced language learning), TELL (technology-enhanced language learning)" ([Al-Kadi, 2018, p. 4](#)). These cutting-edge methods encourage meaningful and active learning in addition to providing a wealth of opportunities for ELT/ESP instruction. Students gain excellent opportunities to be exposed to authentic, engaging, and timely materials from the target culture, which are generally provided in limited capacity in traditional classes. Furthermore, technology creates an interactive learning environment where students can interact via videos, audios, or texts, collaborate with peers, and practice their language skills with captivating online games and applications. Last but not least, students can take advantage of the nuanced instruction in which many applications are utilized to give assignments, keep track of students' fulfillment, and assess their learning outcomes.

Effective integration of technology into ELT/ESP teaching is advocated by researchers to improve language teaching, practice, and assessment. [Barron et al. \(2001\)](#) identify six major advantages of technology integration, namely encouraging students to engage in active and collaborative learning based on knowledge and critical thinking, supporting different learning styles of students, fostering personal growth and motivation, enhancing teacher-student interaction, sharpening communication skills, and aiding students in bridging cultural divides. Similarly, [Zhou and Wei \(2018\)](#) call for the application of technological tools in any language activity for efficiency, motivation, and learning style flexibility. Multiple researchers recommend using

technology in teaching English to serve various purposes such as, inter alia, enhancing self-determination to improve students' performance in ESP classrooms (e.g., [Kassim & Ali, 2007](#); [Nhak & Ngo, 2023](#); [Setiawan & Wiedarti, 2020](#); [Surani et al., 2023](#)), improving students' motivation, and confidence ([Ghavifekr et al., 2016](#)), motivation, and attention ([Passey et al., 2004](#)), students' interest in learning foreign languages ([Elvi, 2017](#)), and sharpening language skills ([Altun, 2015](#)).

### 2.3 Previous Research on the Technology Application in ESP Classroom

Over the past few decades, a number of studies have been carried out to explore the multi-dimensional benefits of different ICT applications in ELT at different educational levels. However, for this research, only those studies on integrating technology in ESP instruction are selected for review.

Firstly, technology including Internet resources such as websites, blogs, and wikis can enhance students' learning and motivation. [Kassim and Ali \(2007\)](#) investigate the effect of integrating the Internet and PowerPoint applications on student-centered learning in English for Technical Communication classes. The findings show that Internet use positively enhances students' deep learning, which normally occurs when students are genuinely driven to participate in learning activities. The researchers further explain that the nature of the Internet, which provides a wealth of real, affordable, and readily accessible information at any time, motivates learners to "indulge in the learning process" (p. 27). Furthermore, Wiki's use for teaching ESP bolsters students' engagement in collaborative learning and increases their motivation to collaborate in the classroom ([Felea & Stanca, 2014](#); [Rodríguez-Arancón & Calle-Martínez, 2014](#)). Similar to Wikis, blogging also enables learners to enhance their academic writing proficiency ([Blackstone et al., 2007](#)), motivates them to feel that they belong to a learning community, and enhances their participation and engagement ([Montero-Fleta & Perez-Sabater, 2010](#)).

Secondly, technology in the form of web-based or app-based applications such as Quizlet, Kahoot, etc. has been extensively explored in EFL/ESL pedagogy; however, very few have been conducted in ESP instruction. Recent research was undertaken by [Setiawan and Wiedarti \(2020\)](#) in the Indonesian context to examine the effects of Quizlet on students' motivation to learn vocabulary. The results show that Quizlet is effective in boosting students' interest and enthusiasm to learn.

In legal English instruction, [Surani et al. \(2023\)](#) use a Canva-based E-module to teach ESP to law students at Bina Bangsa University, Indonesia. The E-module combines online learning tools such as YouTube and websites enabling students to access online resources including exercises, audio, and videos relevant to the content. The findings affirm that students improve their performance and hold a favorable impression of the E-module. [Yulinetskaya et al. \(2021\)](#) examine the application of ICT tools including online dictionaries and recorded video courses to develop law students' communicative competence during individual study. They employed a blended learning model of traditional and distance learning approaches and found out that the thoroughly elaborated course with relevant ICT tools improves law students' communicative competence.

In the current domestic context, more attention has been paid to the practice of teaching English using ICT ([Huynh et al., 2018](#)), the issues and obstacles in utilizing ICT for English instruction ([Pham & Lee, 2019](#)), while the correlation between ICT

integration and learning motivation and outcomes in ELT/ESP has not been addressed. At Hanoi Law University, Vietnam, only one study has been undertaken to investigate the use of Quizlet to improve legal English vocabulary acquisition from students' perspectives (Nhac & Ngo, 2023). None has been done to gauge whether the integration of carefully selected technologies into legal English classrooms could enhance students' motivation and learning outcomes in learning this subject.

To summarize, previous studies focus on either technology in general or specific technology in particular. There is a paucity of research into the effects of using a combination of tools in ELT/ESP to attain specific goals. The idea of combining several technologies to enhance learner motivation in legal English classes arises from the fact that each technology has its own merits and demerits and may be appropriate for specific activities, objectives, or learning styles of students. Using different tools for different class activities is expected to maintain learners' interests and bring favorable results, especially for courses over a long period of time. The present study, therefore, aims to fill the aforementioned gaps in the literature and bring insights into modern, technology-based methods of teaching ESP in general and legal English in particular.

### **3. METHODS**

#### **3.1 Research Design**

This study employed an experimental research design (Creswell & Creswell, 2018) to explore the correlation between the strategic integration of technology in legal English instruction and students' attainment and motivation. This research design was adopted since it allows the researcher to construe the causal relationship between the two variables: the independent variable, which is the technology-integrated pedagogical approach used to teach legal English, and the dependent variables, which are students' learning outcomes and motivation. For this purpose, two groups of students were randomly chosen to be the Control group and Treatment group, receiving conventional and technology-based instructions respectively.

Since the focus of this study is on the strategic use of technology in the classroom, the researcher meticulously planned her lessons in advance, taking such issues as relevance, ease of use, interaction, accessibility, etc., into consideration when selecting what tools or platforms to use in each lesson. Three Edtech tools: Quizlet, multimedia, and Quizizz were finally chosen to incorporate into the lessons with the Treatment group. Quizlet is useful for a course that provides learners with many terms and definitions like legal English, so it was utilized to create sets of flashcards to teach legal terms and contents more creatively and interactively. Quizizz, a powerful tool for revisions and keeping track of students' progress, was used to test how well they acquired legal English at some intervals over the course. Multimedia in the form of videos and podcasts were also integrated into the lessons since the textbook contains reading texts only, which might be tedious for students when they have to study a course over a long period of time. It is well-noted that these technologies largely provide different platforms for the researcher to teach legal English to students; however, all the technology-based activities were created and designed by the researcher herself to ensure their relevance to the contents of the lessons as well as

students' needs. The actual pedagogical intervention conducted by the researcher is described in Table 1 in the following section.

### 3.2 Setting and Participants

This study was conducted at Hanoi Law University, a prominent institution in Vietnam known for integrating legal English courses across various law training programs, ranging from foundational to advanced levels. Two classes of first-year students majoring in International Business and Trade Law were randomly selected as participants for this experimental research. This choice was motivated by the fact that unlike other law majors who begin their legal English modules in their second year, International Business and Trade Law students start their compulsory basic legal English module in the first semester of their tertiary education, concurrently with their initiation into professional law studies. Consequently, their knowledge of legal English terms, concepts, and knowledge is somewhat limited, intensified by the specialized lexical and syntactic features of legal English. This limitation affects their motivation to learn and hinders their learning achievement. Therefore, the researcher took action to support her students in overcoming these challenges.

The basic legal English module lasts 15 weeks and covers such legal topics as legal systems, sources of law, courts and tribunals, criminal law, civil law, EU law, and legal professions. This course aims to provide students with basic legal terminologies related to the aforementioned topics and sharpen students' language skills in legal contexts.

Regarding the demographic information of the participants, a total of 52 freshmen from two legal English classes participated in the study. Fourteen of them are male, accounting for 27% of the population, and 38 are female, making up 73%. These students were homogeneous in that their English was at the pre-intermediate level, and none of them had studied legal English before.

### 3.3 Data Collection Instruments and Procedure

The study employed two data collection instruments: a motivational survey questionnaire to measure students' level of motivation and a pre-and post-test to evaluate their learning outcomes. The tests were self-designed to measure students' achievement before and after the treatment period. The whole process can be described as follows: In the first five weeks, the teacher-researcher employed the traditional method in both classes and administered the pre-test in week five. The last 10 weeks were the intervention period for the Treatment group, while the same traditional teaching method was employed in the Control group. At the end of the experimental period, students in both groups did the post-test. The score range of the tests is between 0 and 10 points.

The motivational questionnaire was adapted from the one developed by Glynn et al. (2009) to fit the context of the study. It consists of 30 five-point Likert scale items divided into four motivational factors: (1) intrinsic motivation and personal relevance (10 items), (2) self-efficacy and assessment anxiety (nine items), (3) self-determination (four items), (4) extrinsic motivation (career motivation and grade motivation) (seven items). The pre- and post-questionnaires were administered at the same time as the pre-and post-tests.

**Table 1.** Research design and procedure.

| Group              | N  | Pre-test<br>(at the end of<br>week 5)                                                                                  | Intervention<br>(from week 6 to 15)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Post-test<br>(at the end of<br>week 15)                                                                                |
|--------------------|----|------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|
| Treatment<br>group | 26 | <ul style="list-style-type: none"> <li>• Legal English achievement test</li> <li>• Motivation questionnaire</li> </ul> | <p>Treatment manipulation:</p> <ul style="list-style-type: none"> <li>• Quizlet is used in every lesson to pre-teach vocabulary and contents.</li> <li>• Multimedia (podcasts and videos from websites and YouTube such as <a href="https://www.parliament.uk">https://www.parliament.uk</a>; and <a href="https://www.videovocab.tv">https://www.videovocab.tv</a> are used sparingly in place of some reading materials). Pre-, while-, and post-activities relating to the contents are designed by the researcher.</li> <li>• An educational game (Quizizz) is used every two weeks to assess the acquisition of legal English at regular intervals and familiarize students with the final end-of-term exam.</li> </ul> | <ul style="list-style-type: none"> <li>• Legal English achievement test</li> <li>• Motivation questionnaire</li> </ul> |
| Control<br>group   | 26 | <ul style="list-style-type: none"> <li>• Legal English achievement test</li> </ul>                                     | No treatment manipulation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <ul style="list-style-type: none"> <li>• Legal English achievement test</li> </ul>                                     |

### 3.4 Data Analysis

SPSS version 26.0 application was employed for the treatment of data obtained from tests and survey questionnaires. The data were analyzed and interpreted using descriptive statistics (Brosh, 2011). To be more specific, the means and standard deviations of students' pre-tests and post-tests, and the 30 five-point Likert scale statements were calculated. The interval scales of the questionnaire can be interpreted as follows: 1.0-1.80: almost never true; 1.81-2.60: usually not true; 2.61-3.40: somewhat true; 3.41-4.20: usually true; 4.21-5.0: always or almost always true.

The total scores of the motivation questionnaire range from the lowest of 30 to the highest of 150. Each student's overall score is calculated by adding up the score given to each item and then interpreted as follows: from 30 to 59: 'never to rarely' motivated, 60–89: 'rarely to sometimes' motivated, 90–119: 'sometimes too often' motivated, and 120–150: 'often to always' motivated.

A paired sample t-test was conducted to assess the disparity in students' pre- and post-test scores within the group, and a one-way ANOVA was used to test between groups. The significance level was set at 5%.

## 4. RESULTS AND DISCUSSION

### 4.1 The Strategic Use of Technology Effects on Students' Learning Outcomes

The data from the pre-test and post-test were processed and tabulated for analysis to answer the first research question. The results are displayed in the following tables.

**Table 2.** Comparison of pre-test scores between groups.

|           | N  | Mean  | Std. deviation | Std. error | 95% Confidence interval for mean |             |
|-----------|----|-------|----------------|------------|----------------------------------|-------------|
|           |    |       |                |            | Lower bound                      | Upper bound |
| Control   | 26 | 7.592 | .7348          | .1441      | 7.296                            | 7.889       |
| Treatment | 26 | 7.535 | .7879          | .1545      | 7.216                            | 7.853       |
| Total     | 52 | 7.563 | .7549          | .1047      | 7.353                            | 7.774       |

**Table 3.** Test of homogeneity of variances.

|                |               | Levene statistic | df1 | df2 | sig. |
|----------------|---------------|------------------|-----|-----|------|
| Pretest scores | Based on mean | .343             | 1   | 50  | .561 |

**Table 4.** ANOVA.

|                | Sum of squares | df | Mean square | F    | Sig. |
|----------------|----------------|----|-------------|------|------|
| Between groups | .043           | 1  | .043        | .075 | .786 |
| Within groups  | 29.017         | 50 | .580        |      |      |
| Total          | 29.061         | 51 |             |      |      |

As seen in Tables 2-4, the Control group and Treatment group's mean scores are 7.592 and 7.535 respectively. The p-value of Levene's test is 0.561, which is greater than 0.005, suggesting that the ANOVA test is used instead of the Robust Test. The p-value of the one-way ANOVA test equals 0.786, which is greater than 0.005. As a result, the mean scores of the Control and Treatment groups are not statistically significant. In other words, the students were homogeneous regarding their legal English competence prior to treatment administration. This result meets the standard practice in true experimental research.

**Table 5.** Comparison of pre-test and post-test scores of control group paired samples statistics.

|          | Mean   | N  | Std. deviation | Std. error mean |
|----------|--------|----|----------------|-----------------|
| Pretest  | 7.5923 | 26 | .73481         | .14411          |
| Posttest | 7.8000 | 26 | .66753         | .13091          |

**Table 6.** Paired samples test: pair differences.

|                    | Mean   | Std. deviation | Std. error mean | 95% Confidence interval of the difference |        | t     | df | Sig. (2-tailed) |
|--------------------|--------|----------------|-----------------|-------------------------------------------|--------|-------|----|-----------------|
|                    |        |                |                 | Lower                                     | Upper  |       |    |                 |
| Posttest - Pretest | .20769 | .53286         | .10450          | -.00753                                   | .42292 | 1.987 | 25 | .058            |

As indicated in Tables 5-6, the Control group achieved better results in the post-test (M=7.800) than in the pre-test (M=7.5923); however, the difference is not statistically significant ( $p=0.058>0.005$ ). This result suggests that students' better performance at the end of the legal English module is the result of chance rather than being attributed to a specific cause.

**Table 7.** Comparison of pre-test and post-test scores of treatment group paired samples statistics.

|          | Mean   | N  | Std. Deviation | Std. Error Mean |
|----------|--------|----|----------------|-----------------|
| Pretest  | 7.5346 | 26 | .78788         | .15452          |
| Posttest | 8.4154 | 26 | .67272         | .13193          |

**Table 8.** Paired samples test: pair differences.

|                    | Mean   | Std. deviation | Std. error mean | 95% Confidence interval of the difference |         | t     | df | Sig. (2-tailed) |
|--------------------|--------|----------------|-----------------|-------------------------------------------|---------|-------|----|-----------------|
|                    |        |                |                 | Lower                                     | Upper   |       |    |                 |
| Posttest - Pretest | .88077 | .49073         | .09624          | .68252                                    | 1.07898 | 9.152 | 25 | .000            |

Tables 7-8 show that the disparity in the mean score of the pre-test and post-test is 0.88, which is greater than zero, and the significance value is  $p=0.000<0.005$ . This means this difference is statistically significant. In other words, the increase in students' scores was due to the technological teaching approach.

Due to the fact that both groups did better in the post-test than in the pre-test and that the Treatment group attained higher mean scores in the post-test ( $M=8.415$ ) than the Control group ( $M=7.800$ ), as illustrated in Tables 9 and 10, a one-way ANOVA was run to determine if such differences are statistically significant (see Table 11).

**Table 9.** Comparison of post-test scores between groups

|           | N  | Mean  | Std. deviation | Std. error | 95% Confidence interval for mean |             |
|-----------|----|-------|----------------|------------|----------------------------------|-------------|
|           |    |       |                |            | Lower bound                      | Upper bound |
| Control   | 26 | 7.800 | .6675          | .1309      | 7.530                            | 8.070       |
| Treatment | 26 | 8.415 | .6727          | .1319      | 8.144                            | 8.687       |
| Total     | 52 | 8.108 | .7327          | .1016      | 7.904                            | 8.312       |

**Table 10.** Test of homogeneity of variances.

|                 |               | Levene statistic | df1 | df2 | sig. |
|-----------------|---------------|------------------|-----|-----|------|
| Posttest scores | Based on mean | 1.570            | 1   | 50  | .618 |

**Table 11.** ANOVA.

|                | Sum of squares | df | Mean square | F      | Sig. |
|----------------|----------------|----|-------------|--------|------|
| Between groups | 4.923          | 1  | 4.923       | 10.963 | .002 |
| Within groups  | 22.454         | 50 | .449        |        |      |
| Total          | 27.377         | 51 |             |        |      |

Tables 9-10 show that the p-value of Levene's test is 0.618, which is greater than 0.005, so the assumption of homogeneous variance holds. Hence, statistics from the ANOVA table are used to compare means. The p-value in the ANOVA table is 0.002, which is less than 0.05, meaning that the differences in mean scores between the Control and Treatment groups are statistically significant.

From the analysis of mean scores between and within groups before and after using technology in legal English lessons, it can be concluded that instructional technology had positive effects on students' achievement.

## 4.2 The Impact of the Strategic Use of Technology on Students' Motivation

The answer to this research question can be found through the analysis of the survey questionnaire results.

**Table 12.** Comparison of students' levels of motivation before and after intervention.

| Results     | Never to rarely motivated |   | Rarely to sometimes motivated |      | Sometimes too often motivated |      | Often to always motivated |      |
|-------------|---------------------------|---|-------------------------------|------|-------------------------------|------|---------------------------|------|
|             | N                         | % | N                             | %    | N                             | %    | N                         | %    |
| Pre-survey  | 0                         | 0 | 10                            | 38.5 | 16                            | 61.5 | 0                         | 0    |
| Post-survey | 0                         | 0 | 0                             | 0    | 15                            | 57.7 | 11                        | 42.3 |

Table 12 shows an obvious increase in students' levels of motivation before and after the treatment. Specifically, before technology was employed, more than one-third (38.5%) of the students were rarely to sometimes motivated, and nearly two-thirds (61.5%) were sometimes too often motivated. None of them were either never to rarely motivated or too often to always motivated. After the experiment, students' motivation was higher, with 42.3% reported to be at the highest level (often to always motivated), and the remaining 57.7% sometimes too often motivated.

**Table 13.** Students' motivation before and after intervention.

| Motivational factors                                                       | Before     |           | After      |           | Stat. sig.      |
|----------------------------------------------------------------------------|------------|-----------|------------|-----------|-----------------|
|                                                                            | Mean score | Std. dev. | Mean score | Std. dev. | Sig. (2-tailed) |
| <b>Factor 1: Intrinsic motivation and personal relevance</b>               |            |           |            |           |                 |
| 1. I find learning Legal English (LE) interesting.                         | 3.15       | .67       | 4.31       | .67       | .000            |
| 2. I enjoy LE.                                                             | 2.88       | .71       | 4.23       | .58       | .000            |
| 3. The LE I learned has practical value for me.                            | 2.88       | .58       | 3.96       | .44       | .000            |
| 4. The LE I learned is relevant to my life.                                | 3.07       | .63       | 4.00       | .49       | .000            |
| 5. The LE I learned relates to my personal goals.                          | 3.07       | .62       | 4.04       | .53       | .000            |
| 6. I like LE which challenges me so I can learn new things.                | 2.69       | .74       | 3.85       | .46       | .000            |
| 7. Understanding LE gives me a sense of accomplishment.                    | 3.19       | .75       | 3.96       | .53       | .000            |
| 8. The LE I learn is more important to me than the grade I receive.        | 2.54       | .51       | 3.23       | .77       | .000            |
| 9. I think about how I will use the legal English I learn.                 | 2.77       | .51       | 3.85       | .54       | .000            |
| 10. I think about how the LE I learned will be helpful to me.              | 3.08       | .69       | 3.73       | .60       | .000            |
| <b>Factor 2: Self-efficacy and assessment anxiety</b>                      |            |           |            |           |                 |
| 11. I am nervous about how I will do on the LE tests (r).                  | 2.69       | .61       | 3.38       | .49       | .000            |
| 12. I worry about failing the LE tests (r).                                | 2.57       | .64       | 3.85       | .54       | .000            |
| 13. I become anxious when it is time to take a LE test (r).                | 2.54       | .58       | 3.73       | .45       | .000            |
| 14. I am confident I will do well on the LE tests.                         | 2.69       | .74       | 3.46       | .51       | .000            |
| 15. I am concerned that the other students are better in legal English (r) | 3.23       | .65       | 3.42       | .64       | .057            |
| 16. I believe I can master the knowledge and skills in the LE course.      | 2.81       | .56       | 3.96       | .53       | .000            |
| 17. I hate taking the legal English tests (r).                             | 2.38       | .49       | 3.73       | .60       | .000            |
| 18. I believe I can master the knowledge and skills in the LE course.      | 2.65       | .63       | 3.65       | .63       | .000            |
| 19. I am confident I will do well on the LE projects.                      | 2.65       | .63       | 3.85       | .54       | .000            |

Table 13 continued...

| <b>Factor 3: Self-determination</b>                                            |      |     |      |     |      |
|--------------------------------------------------------------------------------|------|-----|------|-----|------|
| 20. I put enough effort into learning LE.                                      | 2.96 | .59 | 3.96 | .53 | .000 |
| 21. I prepare well for the LE tests and projects.                              | 2.92 | .63 | 4.04 | .66 | .000 |
| 22. I use strategies that ensure I learn LE well.                              | 2.88 | .71 | 4.08 | .69 | .000 |
| 23. If I am having trouble learning the LE I try to figure out why.            | 3.08 | .69 | 3.69 | .55 | .000 |
| <b>Factor 4: Extrinsic motivation (Grade motivation and career motivation)</b> |      |     |      |     |      |
| 24. I think about how learning LE can help my career.                          | 3.38 | .57 | 3.53 | .51 | .103 |
| 25. I think about how learning LE can help me get a better job.                | 3.42 | .50 | 3.54 | .58 | .083 |
| 26. I like to do better than the other students on the LE tests.               | 3.73 | .45 | 3.96 | .20 | .011 |
| 27. Earning a good LE grade is important to me.                                | 4.00 | .28 | 3.96 | .19 | .327 |
| 28. I expect to do as well as or better than other students in the LE course.  | 3.73 | .45 | 3.88 | .43 | .212 |
| 29. I think about how my LE grade will affect my overall grade point average.  | 3.69 | .47 | 3.92 | .27 | .031 |
| 30. It is my fault if I do not understand the legal English I study.           | 3.00 | .63 | 3.69 | .54 | .000 |

NB: The 'r' items were reverse-scored.

**Table 14.** Comparison of motivational factors before and after intervention.

| Motivational factors                                  | Before     |          | After      |          | Stat. sig.      |
|-------------------------------------------------------|------------|----------|------------|----------|-----------------|
|                                                       | Mean score | Std. dev | Mean score | Std. dev | Sig. (2-tailed) |
| Factor 1: Intrinsic motivation and personal relevance | 2.93       | .216     | 3.92       | .296     | .000            |
| Factor 2: Self-efficacy and assessment anxiety        | 2.69       | .233     | 3.67       | .206     | .000            |
| Factor 3: Self-determination                          | 2.96       | .083     | 3.94       | .173     | .005            |
| Factor 4: Extrinsic motivation                        | 3.56       | .324     | 3.78       | .192     | .043            |

Table 14 compares the mean score of each questionnaire item, whereas Table 8 compares the mean score of each motivational factor before and after the intervention. The figures shown in Table 8 indicate that before the new teaching method was employed, only Factor 4 attained a high level of motivation ( $M=3.56$ ,  $SD=0.324$ ). This means that students were already highly extrinsically motivated. In other words, they were more driven to learn legal English due to their desire to have a good future career and to earn good grades. On the contrary, three other factors (Factors 1, 2, & 3) were at a moderate level, namely self-determination ( $M=2.96$ ,  $SD=0.083$ ), intrinsic motivation and personal relevance ( $M=2.93$ ), and self-efficacy and assessment anxiety ( $M=2.69$ ).

The post-survey results depict a substantial change in students' motivation since all four motivational factors were recorded at high levels with their mean scores ranging between 3.67 and 3.94. The most noticeable change can be seen in Factors 1, 2, and 3 which increased from a moderate level before treatment to a high level after treatment ( $M=3.92$ ,  $M=3.67$ , and  $M=3.94$  respectively). It is noted that the assessment anxiety items are reverse-scored when added to the total, so a higher score on this component means less anxiety. Hence, students' high level of self-efficacy and assessment anxiety (Factor 2) means that they are highly confident in their capacity to learn legal English and less anxious about taking legal English exams. The 2-tailed p-

values of the test for Factors 1, 2, and 3 are equal to or less than 0.005, indicating that the difference between the mean scores of the pre-and post-survey is statistically significant. Factor 4 remained high after the intervention period ( $M=3.78$ ) and was higher than before ( $M=3.56$ ). However, this difference is not statistically significant ( $p=0.043>0.005$ ).

Among the 30 items surveyed after the intervention, two of them about students' intrinsic motivation and one concerning the self-determination factor show a very high level of motivation. They are "I find learning legal English interesting" ( $M=4.31$ ), "I enjoy learning legal English" ( $M=4.23$ ), and "I use strategies that ensure I learn legal English well" ( $M=4.27$ ), respectively. The first two items show a very high level of students' interest in learning legal English, while the last one reveals a very high level of self-determination when it comes to adopting appropriate learning methods. These findings indicate that students' motivation was enhanced with the integration of different technological tools into legal English lessons.

## 5. DISCUSSION

The findings show that the strategic use of technology in teaching legal English has positive effects on students' cognitive (what they know) and affective (how they feel about themselves and the situation they are part of) performance. What can be inferred from such findings is that students' achievement and motivation are positively associated, supporting previous research claims. As [Sardiman \(2014\)](#) postulates, academic attainment is maximized when given motivation determines how much effort they make plus how successful they are in the learning process.

Regarding the cognitive dimension, this finding is consistent with other aforementioned studies (e.g., [Liu & Huang, 2011](#); [Woolfolk & Margetts, 2007](#)), but different from [Jacobsen and Forste \(2011\)](#), whose investigation exhibits signs of negative results. There are several reasons for the increase in students' learning outcomes. Firstly, technology supports learning not only inside but also outside the classroom. Inside the classroom, instructional technology creates a favorable learning environment for students with different learning styles to actively participate in the learning process ([Albadi, 2016](#)). Moreover, students may find it hard to remain involved in the things they are being taught, so using technology can hold their attention ([Mosca et al., 2006](#)) and enable them to acquire knowledge better. Outside the classroom, the tools employed allow students to engage in repeated practice at their own pace, hence reinforcing and mastering their knowledge of legal English.

Pertaining to the affective dimension, the correlation between students' motivation and the utilization of technology in legal English lessons found in this study is in agreement with other international research (e.g., [Kassim & Ali, 2007](#); [Setiawan & Wiedarti, 2020](#)). However, more discussion is needed when we look at each specific motivational factor separately.

The most significant finding from the pre- and post-survey is that students showed a high level of extrinsic motivation (career motivation and grade motivation). This finding affirms the results by [Giang et al. \(2023\)](#), who claim that students are highly motivated to learn ESP for their future careers. Legal English itself is crucial for students specializing in International Business and Trade Law as they are expected to be involved in cross-border transactions in their legal profession later. The post-

questionnaire, however, shows that the use of technology has not significantly impacted students' extrinsic motivation. This finding is contrary to the findings of [Ciampa \(2014\)](#), who claims that technology positively impacts the extrinsic motivators for learning when it is included in the lesson plans carefully and selectively. He suggests that to motivate students to learn, tasks assigned to them must be meaningful. This can be achieved by taking into account student interest, emphasizing mastery, and focusing on learning. It can be inferred from [Ciampa's \(2014\)](#) findings and suggestions that the learning tasks involving instructional technology in legal English lessons should be designed and planned more carefully and selectively.

Contrary to extrinsic motivation, which shows little increase before and after the treatment, intrinsic motivation was significantly boosted. This finding agrees with other research findings (e.g., [Ciampa, 2014](#); [Kassim & Ali, 2007](#)). Such a finding is crucial since intrinsic motivation is more desirable ([Passey et al., 2004](#)) and long-lasting than extrinsic type. When students find learning activities enjoyable, interesting, and personally meaningful, they tend to pay more attention, engage more in the learning activities, and try harder to overcome their difficulties. Students' increased interest in learning can be attributed to the various teaching strategies that suit their learning preferences and the authentic, interactive learning materials.

Together with the first motivational factor, students' self-efficacy and self-determination increased to a high level as well. This result is in line with the findings of [Hindi and Renninger \(2006\)](#), who contend that a greater degree of self-efficacy, self-regulation, and continued efforts are attributed to learning interest which eventually contributes to improved learning outcomes and academic accomplishment. Moreover, students' anxiety about tests and examinations was lower after educational technology was introduced in the classroom. According to [Krashen \(1988\)](#), these affective filters are beneficial for language acquisition.

## **6. CONCLUSION**

The current research was conducted to investigate the correlation between the strategic use of technology in legal English classes and students' motivation to learn this subject at Hanoi Law University, a tertiary institution in Vietnam, which offers courses in legal English to students of different law majors. An experimental research design was developed and implemented, and data were gathered via pre-and post-achievement tests and a questionnaire. The findings affirm the effectiveness of instructional technology on both students' learning outcomes and motivation, which aligns with many previous studies. Based on such findings, this study advocates the use of familiar instructional technological tools in teaching legal English in particular and ESP in general, aiming to get them engaged in the learning process and elevate their intrinsic motivation, self-efficacy, self-determination, and reduce their anxiety about tests and exams.

However, issues concerning what technological tools to use, how to use them, and when to use them should be carefully considered. Integration of technology into lessons does not reduce teachers' workloads but requires their efforts and dedication to fully exploit its potential. To bridge this gap, it is essential to train teachers and raise their awareness of the importance of technology in the teaching-learning process. Pedagogical training and workshops on ICT and its application in classroom teaching

are needed to empower ESP teachers' ICT skills and knowledge. Moreover, institutions should cater to such needs and provide teachers and students with adequate facilities such as stable internet access, computers, loudspeakers, etc., to facilitate teaching and learning ESP through the integration of technology in classrooms.

One drawback of this study is that the researcher did not conduct interviews to strengthen the results of the study. Another limitation is the absence of an investigation into factors affecting the successful utilization of technology in the classroom to eliminate the negative impact on motivation should teachers fail to do so. Further research in these regards would grab the attention of researchers and classroom teachers.

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