TEwT

THE

Journal of Teaching English with Technology

UNIVERSITY *of* NICOSIA

UMCS
MARIA CURIE-SKŁODOWSKA UNIVERSITY

The Journal of

Teaching English with Technology *(TEwT)*

Publishers

UNIVERSITY *of* NICOSIA

UMCS
MARIA CURIE-SKLODOWSKA UNIVERSITY

IATEFL Poland Computer Special Interest Group

ISSN 1642-1027

Teaching English with Technology

Members of the Editorial Board

ABSTRACTING AND INDEXING

REVIEWING PROCEDURE

- Each publication is reviewed by at least two external reviewers.

- Since the language of publication is English, at least one reviewer is a native speaker of English.

- At least one reviewer has a different affiliation country than the author.

- The submissions are subject to the double-blind review process.

- Every care is taken so that there is no conflict of interest between the authors and the reviewers.

- The review is made in a written form with a clear conclusion on acceptance or rejection of the submission.

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- The names of reviewers for particular issues are not revealed, instead, once a year, the aggregate list of reviewers for the entire volume is published.

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VOLUME 21, ISSUE 3

FROM THE EDITORS

by **Chris Alexander**

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Speaking as 'fellow' Editor-in Chief of the Journal of *Teaching English with Technology*, firstly, I would like to say it has been a privilege to have been part of this wonderful and fascinating academic initiative for so many years. Moreover, and more importantly, it has been an honour to have known journal founder Jarek Krajka during this period. Jarek, who is very open to international collaboration, is an extremely dedicated, highly ethical and exceedingly competent individual.

A formalised publisher University Letter-of-Intent agreement was therefore suggested for TEwT by Jarek in 2020, and then we arranged for its successful signing by the Rectors of Maria Curie-Skłodowska University, UMCS (Poland) and the University of Nicosia, UNIC (Cyprus) in January 2021. Furthermore, new Journal infrastructural developments are now being implemented. For instance: (1) a new more-professional-looking Amazon-AWS-hosted WordPress Avada page was launched on 3 June this year by the Technology Enhanced Learning Centre of UNIC; (2) DSpace is planned to be installed in the short-term to enable quick text searches of the entire TEwT database; (3) an article management system is being developed to help better manage the submission, review and publication processes.

In addition, TEwT has enjoyed some recent 2020 successes announced by Scopus: it now has a percentile of 87 (higher by 4), a CiteScore of 2.2. (a jump of 0.6 higher) and it has moved to a journal position of 106 out of 879 academic Language and Linguistics journals (a leap upwards of 33 positions). What's more, the TEwT IT and multimedia support team has grown recently with the addition of Dr Dmitry Apraksin (the Director of IT at UNIC), Mr Panayiotis Toumpas (Team Lead, Intelligent Web Development Team, UNIC IT Department) and Mr Vladislav Kolev (Multimedia specialist and Learning Technologist of the UNIC Technology Enhanced Learning Centre).

One might say that TEwT is truly unique: not only does it have an increasingly popular main research focus of ELT with technology, and not only does it bring closer together two dynamic and forward-thinking Universities, but in a small but yet noteworthy way, it also brings two up-and-coming EU countries a little closer together!

TEwT Issue 3 of 2021 comprises six papers. The first paper by **Anna Turula** of Pedagogical University, Krakow, Poland, looks at how an eclectic, gamified course design affects student attitudes to learning grammar as well as how effective such a design is in terms of final-exam results. Paper two, written by **Ida Dringó-Horváth** and **Zsófia Menyhei** of Károli Gáspár University of the Reformed Church in Hungary, sets out to explore English Language Teaching (ELT) and German Language Teaching (GLT) coursebook packages available for use in Hungarian secondary education in terms of their print and digital components, shedding light on the ways in which publishers are trying to keep pace with freestanding digital materials. Paper three, whose author is **Robert Oliwa** of East European State Higher College in Przemyśl, Poland, investigates the process of designing the functionalities of an online learning platform put forward by three types of its users: students, academics and admin staff. Moreover, the study intends to get an insight into the impact the attitudes of the participants of the instruction process have on the process of the platform construction.

The fourth paper by **Saman Ebadi** and **Ali Alizadeh** (Razi University, Iran) reports the results of a mixed-methods approach to investigate the impact of peer online learner driven feedback (LDF) using *Google Docs* and peer-editing in a face-to-face classroom on EFL learners' writing skill. The fifth paper was written by **Damar Isti Pratiwi** of Politeknik Perkeretaapian Indonesia Madiun, Indonesia and by **Ubaedillah Ubaedillah**, Universitas Muhadi Setiabudi, Indonesia. This study aimed to investigate students' learning achievement and their feedback in digital vocabulary class, which utilized *Kahoot!* and *Socrative* as drilling practice tools. It was quasi-experimental research on first-year students of the Railway Mechanical Technology program in Indonesian Railway Polytechnic (N=48). In the final paper of Issue 21(3), **Yustinus Calvin Gai Mali** of Universitas Kristen Satya Wacana, Salatiga, Indonesia, introduces *Postermywall* and presents lesson plans that integrate the technology based on the relevant literature and the International Society for Technology in Education standards to support language learning and practise students' communication and creativity.

The strong and consistent improvement in TEwT's Scopus CiteScore has undoubtedly led to the growing international interest it is now enjoying. Additionally, TEwT's meteoric Scopus CiteScore increase over the past five years may be suggesting, in particular, the journal's area focus is becoming trendier internationally. Moreover, article submissions have increased proportionally too. I would therefore like to thank our Authors, Reviewers and Readers who have helped us achieve these successes.

Finally, we wish you good reading and good health in these difficult times!

THE EFFECT OF COMPUTER-ASSISTED GAMIFIED LEARNING
ON STUDENTS' ATTITUDES AND PROGRESS
IN ADVANCED GRAMMAR CLASS

by **Anna Turula**

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Abstract

The paper looks at how an eclectic, gamified course design affects student attitudes to learning grammar as well as how effective such a design is in terms of final-exam results. Described and discussed here is a 2-year study investigating such digital enhancement in a Practical Grammar class. Carried out as experimental, the study involved 2 groups of first-year students of the English Studies programme at the Pedagogical University in Cracow, Poland. In the first research group (N1e=14), which underwent the treatment in the academic year 2016/2017, the traditional grammar class was replaced with a quasi- experimental instruction including elements of gamification, digital input flooding (including pull and push presentation techniques) and enhancement as well as collaborative (structure flashcards and grammar memes) and exploratory (structure samples from multimedia) learning of grammar. At the end of the course, the students' result of the final grammar test were gathered and compared with the results of the population of first-year students (N1c=113) in whose case the traditional treatment (lecture on rules plus practice in class; practice at home). Additionally the students' attitudes towards various aspects of the experiment were checked with a survey. The same treatment was repeated (N2e=13; N2c=78) in the academic year 2017/2018. Data analysis shows that while the experimental treatment proved equally effective examwise, various factors, such as learner individual differences and material specificity need to be taken into account.

Keywords: focus on form pedagogy; technology-enhanced grammar learning; gamification

1. Introduction

Different approaches to grammar pedagogy can be placed on a continuum. It starts with non-interventionist, implicit modes inspired by Krashen's (1983 and later works) comprehensible input sufficiency claim. Then it goes through various forms of input enhancement and awareness raising. At the other end of the continuum there are explicit focus on form, either

inductive or deductive. Researchers agree[1] that best pedagogical results come if this continuum is treated as a repository based on which an eclectic approach to grammar teaching is developed; an approach comprising implicit and explicit learning; input flooding and input enhancement; inductive and deductive teaching. The rationale behind this is multifaceted, the most important arguments for said diversification of focus on form being individual learner differences as well as different grammars to be taught. In the former case the type of language aptitude will be a deciding factor (Skehan 2003); or whether the learner is oriented towards memory or analytic-ability. In the latter case, the different grammars – grammar of rules, grammar of patterns and grammar of basic semantic distinctions (as Lewis, 1986; Willis, 2005) – will require different pedagogical measures. All in all, effective focus on form boils down to intelligent navigation between the options available.

In the day and age of computer-assisted education, form-focused instruction can be enhanced with the use of ICT. There is ample research reporting the various effects of CALL in grammar pedagogy and the different ways in which they can be obtained. These ways include different exploratory and context-based modes of learning informed by language corpora; techniques relying on the power of multimedia presentation of context; input enhancement; collaborative learning of grammar; as well as mobile push and pull techniques. While the effectiveness of the individual ways of digital enhancement of grammar pedagogy has been studied, there is no research looking at combining these different techniques. The present paper sets out to fill in the gap by investigating how new technologies can be used in an eclectic way to enhance the focus on form.

The treatment was implemented twice between the years 2016-2018 in two groups of students learning the practical grammar of English in the course of their language studies programme. In both editions of the grammar course, the implementation was subject to research the results of which are reported in this paper. Based on the outcome, the present paper reflects on the complexity of computer-assisted grammar learning. In doing so, it attempts to analyse the connections between the techniques applied and the individual differences, both learner- and content-related. It also looks at the relationship between the treatment applied and the exam result. The analysis leads to a number of conclusions and pedagogical implications.

2. Literature review

The various effects of technology-enhanced grammar education reported in research to-date

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[1] For a comprehensive overview of relevant research in this area, cf. Turula (2011).

can be ascribed to a number of categories. The main areas of study include: the application of the mobile learning and its techniques; the use of the digital for the purpose of exploratory learning of grammar, including corpora-based / Data-Driven Learning (DDL) and the multimodal expansion of the context; input enhancement in online learning; collaborative (2.0) learning of grammar; as well as the role of individual differences in preferences of the learners involved. The foci and findings of the various studies are presented in this section.

2.1. Mobile technology and its techniques in focus on form

Several studies in this area examine various mobile focus-on-form applications. For example, Li and Hegelheimer (2013) show the effectiveness of Grammar Clinic, designed for out-of-class grammar exercises in which the user need to identify and correct error on the sentence level.

In addition to applications dedicated to grammar learning, focus-on-form MALL pedagogy takes advantage of popular mobile learning techniques, such as the push technique. Based on a study carried out alongside a learning project in which reading and grammar materials were sent regularly to the students' mobile phone, Wang and Smith (2013) show that the push was seen by the participants as a rather positive experience. At the same time, though, the authors point out that for this technique to be successful, several conditions need to be met, such as relative attractiveness, simplicity and brevity of the materials expedited as well as teacher monitoring of the process reinforced by students' motivation and their sense of privacy being respected. Even though these conditions place a lot of responsibility on the teacher, they seem worth implementing for the sake of the treatment whose effectiveness was confirmed by a newer study. Its authors, Hedjazi, Moghari, and Marandi (2017), show a significant difference in the grammar learning in favour of the participants whose learning was based on text-pushed grammar learning activities. It seems that grammar rules can be pushed as effectively, especially in the light of AbuSeileek's research (AbuSeileek 2009) demonstrating that computer-based learning methods are functional for more complex and elaborate structures, as long as the more complicated grammar structures are taught deductively.

2.2. Learning grammar through digital exploration

As for the exploratory approach to learning grammar, research proof of its effectiveness starts with Manning (1996), who presents study results showing that this teaching philosophy, especially if computer-assisted, has a number of advantages over more traditional, explicit or implicit approaches. Not only does it increase learner motivation and autonomy but it also is

more effective pedagogically. In a more recent study, Karström et al. (2007) show how a CALL exploratory learning environment named Grim was used creatively and collaboratively to support focus on form. Pérez-Llantada (2009), based on her research into various ways of digitally-enhanced grammar exploration, emphasizes the value of Bhatia's multi-perspective approach to corpus-informed instruction. She argues that such pedagogy can, among others, increase the students' accuracy and appropriacy of grammar use by helping them to "identify and understand the textual, genre and social aspects of grammar in real contexts of use" (p. 40). The effectiveness of the "real contexts of use" can be reinforced by their multimodality.

A study by Baturay et al. (2010) demonstrated that the use of audio-visual aids to enrich the contextual presentation of grammar has the potential to increase learner satisfaction in the area of learning enjoyment and positive attitudes. Similarly favourable attitudes of participants together with statistically significant gains as regards the interpretation of the semantics of grammar were shown in our previous research (Turula 2011) in a series of experiments in which English grammatical tenses were learned through the exploration of film and TV show material.

Numerous researchers, such as Bloch (2009), Moon and Oh (2018) as well as Crosthwaite et al. (2019) narrow down exploratory focus on form to corpus-based and data-driven (DDL) learning. Bloch (2009) discusses the integration of web-based concordancing into the teaching of vocabulary and grammar, exploring its pedagogical utility in an academic writing class. He claims that while the students had problems understanding the semantic nature of the choices – which, according to the author, indicated the need for some modifications to the programme as well as some preparatory pen-and-paper in-class activities – they generally used the tool quite effectively. The data gathered by Moon and Oh (2018) show improvement in grammar learning and retention in DDL, ascribing it to the method itself, as it facilitates learner efforts to discover and apply rules. Adequate use of corpora is frequently accompanied by student motivation for such learning activities. Based on their analysis of three corpus users' activity logs, Crosthwaite et al. (2019) note distinctive individual corpus engagement by query frequency and function. As the authors point out, the students frequently go beyond course materials to generate unique queries under their own initiative. Such positive learner attitude to DDL is also emphasised in earlier-cited Bloch (2009).

2.3. Textual enhancement (TE) in online learning

In their review of research into input enhancement through CALL, Shabani et al. (2017) cite only one study dealing with such an approach: Gascoinage's (2013) investigation of the effects

of incidental input enhancement in computerized L2 environments. However, the utility of the CALL/TE combination is highlighted in a number of later publications. Shabani et al. (2016) prove that new grammatical forms can be effectively learned through technologically-enhanced input (highlighted, bolded, or underlined). Ziegler et al. (2017) point out the effects of automatic visual enhancement of input on L2 learners' development. In turn, Joozdani and Rezvani (2018) investigate online learning of English articles through metalinguistic awareness or textual enhancement to prove that the latter technique is more effective for teaching grammar. Most recently, Kilickaya (2019) looks into the retention of adverb clause reduction as a result of different types of visual signalling (bold type; graphic organisers) and shows the effectiveness of such treatment.

2.4. Collaborative (2.0) learning of grammar

Web 2.0, through its potential for the social nature of different actions, including learning actions, paves way for online collaborative focus on form. Literature to-date reports studies into said potential. Kessler (2009) looks at how collaborative, content-focused activities influence the accuracy of the participants' contributions as well as their attitudes to the importance of grammar in the context of collaborative technologies. He reports that sufficient accuracy was achieved in the course of the activity and the students' ability to correct themselves and learn from their own errors and their classmates' increased. Yet, he also highlights the importance of task design and variety, admitting that the participants of the study did not show enough willingness to focus on form. Similar findings are presented in Sauro (2009): corrective feedback offered during task-based interaction via text-chat had limited effectiveness. This may be because, as Kessler notes, students could be less responsive to focus on form "when working in an online context, engaged in a task that they recognized as primarily focused on the creation of meaning" (Kessler 2009, p. 92).

2.5. The importance of personal preferences in CAL of grammar

Hwu (2007) argues that taking personal preferences into account is important in computer-assisted grammar instruction. What such differences may amount to is shown in the already-cited study by Crosthwaite et al. (2019). Their data show, among others, inter-/intra-user trends and variation in the use of particular corpus functions and in the syntax of the queries run by various corpus users. Besides, as the authors point out, the subjects they studied varied in the type of knowledge (e.g. domain-specific, language-specific) they accessed.

All in all, digitally-enhanced focus on form has a number of possible implementations

whose effectiveness and power to influence learner attitudes have been shown in studies to-date. However, there seems to be a gap in research into a combination of the various approaches and techniques studied so far. Such an eclectic approach could be particularly effective vis à vis the importance of individual differences, both as regards the learners themselves (Skehan 2003) and the material to be learned (Lewis 1986, Willis 2005). The present paper is an attempt to fill in a research gap into the effectiveness of eclecticism in the design of a computer-assisted grammar course. Such design, used in the study as summarised below, aimed to investigate how new technologies can be used in an eclectic way to enhance the focus on form.

3. The study

3.1. The context of the computer-enhanced focus-on-form eclective course

The Practical Grammar course is a class typically taught at Polish universities to first-year students of the English Studies programme. A standard class of this type, at least at the university where the present study was conducted, is a 90-minute session combining the teacher's lecture with an extensive grammar drill, both in class and at home.

The design of the Practical Grammar class which provided the context for the present study assumed a different form, taking into account various methods and techniques which belong to the focus-on-form spectrum presented in the literature review section of the paper. The course was taught in the blended format, with the use of the flipped-class model. The students were familiarised with the rules and usage at home (handouts; pull/push activities, teacher-made grammar flashcards) while the in-class time was devoted to a series of diverse activities dealing with the problems studied (passive voice, reported speech, unreal past, modals, conditionals). The in-class activities typically included a Kahoot homework test as well as game-based and fun tasks, such as running dictation, dictogloss, QR-code searches and grammar poetry writing.

Additionally, the course was gamified and the individual badges to be earned in the students' own time required: (i) exploratory and data-driven grammar learning through watching films and TV shows combined with the compilation of a usage corpus dedicated to various structures studied in the course (the Film SWATch badge); (ii) input enhancement – visual and through repetition – based on grammar meme creation, which required integrating popular images with grammar sentences borrowed from the study material (the Meman / Memaid badge); (iii) collaborative learning of grammar in Quizlet, involving team work on the

sets of grammar flashcards (The FishKey Master badge). Moreover, the course provided ample opportunities for quiz-based automatization of the structures learned, rewarded with two more badges (the Quiz Ninja badge and the Top Kahooter badge).

To finish with, the pull/push techniques (mentioned earlier in this section), used for the explicit teaching of the course material, were based on the following scheme. The course material for each grammar problem was divided into grammar pills (=manageable, short packages of rules and examples of usage). A glossary was created in the online course containing entries equal to said grammar pills. A function was switched on making a random glossary entry display to the user on each sign-in (the pull). Alongside the glossary, a discussion forum was started on which a grammar pill was published every day. With the notification function on, each student received his/her daily grammar pill by email (the push). Occasionally, as an exception rather than a rule, the lecture+drill mode was used in class.

The subjects of the study were first-year students of the English Studies programme in the academic years 2016/2017 and 2017/2018. During the first part of the study, the experimental group consisted of 14 students (N1e=14) within the population of 113 (N1c=113). A year later, the treatment was offered to a group of 13 students (N2e=13) drawn from the population of 78 (N2c=78).

3.2. Aims, design and procedure

The main aim of the study was to determine whether the teaching model described above – with its gamified design in place of a lecture+drill pedagogy, matched with the different focus on form activities gamified – was effective in the sense that it led to the improvement of the students' performance on the final grammar exam. In other words, the desirable outcome was determining that there is no significant difference between the population educated based on the standard model and the sample taught in the innovative way. For the sake of the study the following hypothesis was proposed:

In spite of variance in the pedagogical treatment, there will be no statistically significant differences between the sample and the population as regards final exam results.

Additionally, what was of interest of the study, were the various effects of the design implemented. In view of this aim, the following research questions were asked:

RQ1: What was the students' attitude to the innovation, as such and its individual elements?

RQ2: How effective was the design vis à vis the various grammar structures

learned?

In order to verify the hypothesis and answer the two questions, the treatment was implemented twice, in the spring term of the academic years 2016/2017 and 2017/2018. Each time one group – out of 8 (2016/2017) or 6 (2017/2018); purposefully sampled – was subject to the treatment described. For each group the Practical Grammar class was a continuation of a similar class taught in the winter term of the same academic year. The spring-term course consisted of 30 teaching hours, 28 f-2-f and 2 online. The groups which underwent the treatment were additionally offered access to an online course containing the technology-enhanced activities described above.

Since an innovative approach was implemented in the groups under investigation, the experimental study design was chosen. In this design, the winter term exam (in the English tenses) served as a pre-test and the final exam – as a post-test. Since the pre-test covered different grammar problems than the post-test (the English tenses as opposed to conditionals, modals, passive voice and reported speech), it is treated here only as a check of the susceptibility of both samples to the lecture+drill method of teaching in terms of its relative effectiveness for the two experimental groups in the term preceding the treatment.

In order to verify the hypothesis – the lack of statistically significant difference between both samples and their populations as regards final exam results – z-scores were calculated with the significance level 0.05. The calculation was based on the data obtained for the whole populations in January 2017 and 2018 (first-term grammar final, pre-test) and June 2017 and 2018 (end-of-year grammar finals, post-test). As regards the two research questions, scores in individual grammar tasks were examined. Additionally, a survey was implemented in the experimental groups at the end of the course (in June 2017 and June 2018), to ask about the students satisfaction with the treatment and their attitudes to it.

3.3. Results and findings

The pre-tests for both experimental groups (Table 1) show that there is no meaningful difference between these groups and their populations. Both N1e and N2e are slightly better than their population but in a statistically insignificant way (cf. the p values) as regards their knowledge of the English tenses acquired in the lecture+drill winter class.

Table 1. The experimental groups and their populations on the pre-test

	z score	p value
N1e	1.16	0.25
N2e	0.42	0.67

When it comes to the post-test, the overall score of the first experimental group is minimally higher (Table 2) and of the second one minimally lower (Table 3) than that of the population,. However, the overall differences (total exam score) are not statistically significant.

Table 2. Group N1e, results on the post-test

	Conditionals	Modals	Reported speech	Passive voice	Total score
z score	**2.31**	0.53	-0.7	0.9	1.01
p value	**0.02**	0.6	0.46	0.36	0.31

Table 3. Group N2e, results on the post-test

	Conditionals	Modals	Reported speech	Passive voice	Total score
z score	-2	1.17	**-2**	**-2.5**	-1.15
p value	0.05	0.23	**0.048**	**0.01**	0.25

What differs in a statistically meaningful way are some of the individual scores pertaining to the grammar problems covered in the course (values bolded in Tables 2 and 3). The first experimental group scored better than its population on the section of the test devoted to the conditionals. The second experimental group was significantly weaker than the population in reported speech and passive voice.

The results of the survey carried out in both experimental groups contain two different kinds of data: the students' satisfaction with individual activities implemented in the course (Table 4), rated on a scale of 1 ("not satisfied at all") – 6 ("extremely satisfied") plus 0 for "didn't do"; and students' answers as regards their highest and lowest ratings with reasons (Table 5).

When it comes to the feeling of satisfaction, both groups agree in their evaluation of a number of activities, the most popular (scores above average, in bold) being the Kahoot homework check, paper grammar flashcards used in class, game-based activities and the traditional lecture+drill approach. Neither of the groups as a whole (scores below average) showed satisfaction with activities such as the pull technique, meme making, grammar exploration or collaborative grammar learning in Quizlet. The push technique was appreciated

by the second and not the first experimental group. The teacher-made Quizlet flashcards were seen as satisfactory by N1e but not by N2e.

Table 4. Groups N_{1e} and N_{2e}, survey results

Class activities	N_{1e} (mean)	N_{1e} (SD)	N_{2e} (mean)	N_{2e} (SD)
Kahoot homework check	**4.53**	1.4	**5**	1.1
Random glossary entry (pull)	2.67	*2.2*	2.77	*2.04*
Rule emailing (push)	2.8	*2.1*	**3.61**	*1.94*
Meme making	1.27	*2.1*	0.61	*1.6*
Grammar exploration	1.6	*2.2*	1.23	*2.0*
Online quizzes	2.6	*2.4*	**3.15**	*2.4*
Quizlet flashcards – teacher-made	**4.4**	1.2	2.6	*3*
Quizlet flashcards – student-made	2.13	*2.6*	1.23	*2.1*
Grammar flashcards used in class	**4.27**	1.5	**5.23**	0.7
Games in class	**3.53**	1.3	**4.6**	1.4
Lecture+drill	**4.53**	1.7	**5.30**	0.9

At the same time it seems important to note the relatively high SD scores (Table 4, italicised) for some of the activities. They show that there were noteworthy individual differences between how individuals in both experimental groups evaluated such activities as push/pull techniques, meme making, grammar exploration, online quizzing and collaborative learning. Apparently, each sample contains users who are both very satisfied with as well as disappointed with / sceptical of said activities.

When asked what they evaluated the highest and the lowest, the students listed 0-3 activities, giving reasons for their choice (Table 5). The first experimental group favoured the traditional mode (lecture+drill; 6 votes), Kahoot homework check and teacher-made Quizlet flashcards (4 votes). The second experimental group chose paper grammar flashcards (8), Kahoot homework check (5) and the in-class game activities (4). The main reason the respondents from both groups offered was that the techniques coincided with their preferred learning strategies (10 and 11, respectively). Three respondents from N2e appreciated the fun factor.

Table 5. Students' evaluation of activities; highest and lowest scores with reasons

	Highest scores	Reasons	Lowest scores	Reasons
N_{1e}	lecture+drill (6) Kahoot (4) T Quizlet (4) flashcards (2) pull (1)	my way of learning (10) reliability (1) fun (1) learning new useful tool (1)	games (3) Kahoot (3) exploration (2) quizzes (2) flashcards (2)	not my way of learning (8) unreliable (4) bad time/effect ratio (1) no fun (1)
N_{2e}	flashcards (8)	my way of learning (11)	push (5)	not my way of learning (7)

Kahoot (5)	fun (3)	pull (3)	unreliable (4)
games (4)		games (3)	not clear (1)
push (3)		lecture+drill (1)	
lecture+drill (2)			
quizzes (2)			

There is far less agreement as to what the least favourite activities were, in either of the groups. The choices are scattered, with the dislike of the push technique being the most consistent in the second experimental group. Both groups are more in accord as for the reason of their low satisfaction: as in the case of favourite activities, the learning style factor is the most important (8 and 7, respectively), followed by apprehension in the face of novelty (unreliable, 4 votes in each group).

4. Discussion

In the light of the data, the hypothesis stating that in spite of the various course designs there will be no significant difference between the sample and the population as regards the final exam results can be sustained for the overall exam score but not for some of the scores related to various grammar problems covered in the course. This leads to a number of observations.

First of all, it seems legitimate to conclude that the eclectic course design is a worthwhile alternative to the standard teaching. The flipped-class, gamified model, with game- based, fun-focused in-class activities supplemented with various forms of form-focused homework proved to be equally effective examwise.

At the same time, however, it is interesting to note a number of factors which cannot be ignored in the pursue of the answers to the two research questions.

RQ1: What was the students' attitude to the innovation, as such and its individual elements?
Looking at the results we can see that the students themselves actually are in two minds about the innovation. While they appreciate a number of the in-class activities (Table 4) claiming they go well with their own way of learning (Table 5), they also value highly the traditional approach for a similar reason (Tables 4 and 5). Considering the fact that the standard treatment is commonly regarded as very demotivating, not to mention that its effectiveness is questionable in the light of research into the form-focused instruction (cf. Turula 2011 for an overview), there may be several reasons for the students' preference towards it. To begin with, the satisfaction survey was administered before the exam, and the students could still feel apprehensive (the quite popular unreliable vote; Table 5) towards the solutions which differed from the mainstream course of pedagogical action and had yet to be exam-verified. Secondly,

the popularity of the standard may show that we are dealing with transfer of training here (a considerable number of my way of learning answers; Table 5): the students choose the ways of learning which they have long been familiar with.

It is important to admit that the above-mentioned reasons for the students' choice and high ranking of the lecture+drill mode – their pre-exam anxiety and the transfer of training – are purely speculative. What is a fact, though, is the popularity of the standard itself. This, in combination with the fact that a large proportion of both experimental groups rejected many aspects of the treatment: grammar exploration, input enhancement, the push technique (top least favourite for N2e; Table 5) may be surprising in the digital native generation, whatever the reason for the lack of satisfaction. It is also pedagogically disquieting, considering the effectiveness of such techniques proved by the numerous studies cited above.

The explanation of the lack of appreciation for the array of technology-enhanced techniques may be the one proposed by Reinders and Hubbard, who write (2013: 360):

> Although technology undoubtedly does support learners in a myriad of ways, it is also true that without adequate preparation, practice, feedback and support many learners are unable to make effective use of technology's affordances and indeed may suffer from using technology inadequately.

The fact that in the experiment described the exploratory learning of grammar as well as input enhancement and flooding were to be carried out independently of the teacher might have resulted in the activities lacking "adequate … feedback and support", also in the form of an explicit rationale for the innovations adopted. This shows that in the implementation of various pedagogical modes, the cognitive and affective what in any educational agenda should be supported with the why: the metacognitive training of the participants clarifying the potential benefits of the treatment.

Finally, a word needs to be said about individual differences vis à vis different teaching modes. While the first experimental group seem to have benefited from the treatment – scoring better than the population on all grammar problems but the passive voice (Table 2) – the other group, even though generally successful examwise, was bested by those exposed to the lecture+drill standard in almost every area, the disadvantage being statistically significant in the case of passive voice and reported speech. This may be indicative of two different factors. Firstly, the first experimental group could have been more susceptible to the treatment. The interpretation – not sought in the course of the study and thus again purely speculative – may be that the N1e sample was more flexible, open to innovation and less prone to pre-exam anxiety. Secondly, as demonstrated by the SD scores, individual intra-group differences are an

important variable. Some activities were highly evaluated by some students and disfavoured by others. This, seen in the context of the overall success of the innovative design, shows that the eclectic composition of the course was potentially beneficial by allowing its different participants to find various way which coincided with their learning preferences and styles – an important factor, as shown by Hwu (2007) and Crosthwaite et al. (2019).

RQ2: How effective was the design vis à vis the various grammar structures learned?

In addition to learner individual differences, the data show that it is possibly the type of grammar structure that matters as regards the various effects of the treatment studied. The fact that passive voice and, especially, reported speech proved to be the weakest points in the experimental course may indicate that the innovation implemented could be better suited for the grammars of pattern (conditionals) and basic semantic distinctions (modals) than it is for the grammar of rules (reported speech and passive voice.

5. Conclusions

The results of the study show that while the experimental treatment can be seen as effective examwise, various factors, such as learner individual differences and the specificity of the material taught need to be taken into account. Pedagogical implications – other than the acknowledgement that the experimental treatment may be a viable alternative to the lecture+drill class format – boil down to the recognition of two important facts: that effective focus on form requires a spectrum of activities; and that in language learning raising metacognitive awareness of the treatment employed is a necessary addition to the treatment itself.

Ethical statement

The study was carried out with academic ethics in force in Poland.

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CHANGES IN COURSEBOOK PUBLISHING:
EXPLORING THE DIGITAL COMPONENTS OF FOREIGN LANGUAGE
COURSEBOOK PACKAGES

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Abstract

Although it is increasingly common for foreign language teachers to rely on external, online tools and resources, coursebooks are still fundamental elements of classroom-based FLT in many parts of the world. The study presented in the article therefore sets out to explore English Language Teaching (ELT) and German Language Teaching (GLT) coursebook packages available for use in Hungarian secondary education in terms of their print and digital components, shedding light on the ways in which publishers are trying to keep pace with freestanding digital materials. It thereby aims to highlight current global trends in relation to digitization in foreign language coursebook publishing.

Keywords: digital instructional material; coursebook; coursebook package

1. Coursebooks in the digital age

Coursebooks have had a central role in foreign language education around the world in providing structure for language programs, offering standardized, tried-and-tested content, as well as serving as time-savers and vehicles for methodological development for language teachers (Crawford, 2002; Sheldon, 1988). However, they have also been the subjects of "grassroots discontent" (Sheldon, 1988, p. 237) for a number of reasons, including their cost, inflexibility, failure to present realistic language models and inability to reflect local needs (Crawford, 2002; Godwin-Jones, 2016; Sheldon, 1988). More recently, Jordan and Gray (2019) have criticised global coursebooks (i.e., those produced by publishers such as Pearson, Macmillan or OUP for general language courses around the world) for their synthetic syllabus

and explicit instruction model, which the authors claim goes against what we know about L2 learning from SLA research findings.

Digital instructional materials are often contrasted with (print) coursebooks (see for example Muslem et al., 2018). The former have been lauded for their flexibility, customizability and cost-effective adaptability (e.g., see the benefits listed by the State Educational Technology Directors Association (SETDA), 2012). As a result, interest has grown significantly in digital alternatives to publisher materials. For instance, in a study involving Swedish pre-service and in-service English as a Foreign Language (EFL) teachers, Allen (2015, p. 249) proves that while pre-service teachers still regard traditional coursebooks as useful tools in structuring lessons and providing extended reading practice, their in-service colleagues are relying more and more on external digital materials at the expense of coursebook packages. This finding demonstrates the increased use of freestanding digital content, but also highlights the reality of teachers worldwide in which the traditional coursebook still holds its ground as a fundamental element of the foreign language classroom.

Throughout the history of CALL, the coursebook publishing industry has responded in different ways to the changing needs and possibilities: the 1980s saw the appearance of self-study materials on CD-ROMs as new elements of coursebook packages; then later IWB software versions of coursebooks appeared (Dudeney & Hockly, 2012). In what ways are coursebook publishers trying to keep pace in an era of mobile devices, game consoles and online environments, when technology is considered an integrated part of the teaching and learning process (Li, 2017)? The study reported on in this paper aims to answer this question in the context of Hungarian foreign language education. It explores the digital components of those English Language Teaching (ELT) and German Language Teaching (GLT) coursebook packages which are found on the Hungarian state-approved list of textbooks for use in secondary public education.

2. The digital components of coursebook packages

2.1. Terminological challenges

In foreign language teaching modern coursebooks are generally not standalone books. With the growing complexity of the learning environment the past decades have seen an increase in the number of instructional materials closely connected to coursebooks, as part of coursebook 'packages'. Coursebook packages typically include "a wide range of additional resources: video content, photocopiable activities, online components, teacher's guides (which include

ideas for tasks, extensions, and projects), apps, dyslexia-friendly pages, workbooks, e-books, interactive presentation tools, web-based extra resources, etc." (Hughes, 2019, p. 2). These components are intended to support the learning process (e.g., workbook, tests) as well as teacher planning (e.g., teacher's guides, course syllabus) and may constitute 'core' content or supplemental content. In short, "modern coursebooks can be seen less as books and more as a set of resources that teachers can choose to use as-is or adapt, extend, or supplement" (Hughes, 2019, p. 2). A growing number of digital components are included in coursebook packages (see Dringó-Horváth, 2016), some of which are difficult to define and categorise as separate entities. Some are simply static, digitized versions of traditional print components (e.g., teacher's book in digital form) or digitized parts of traditional print components (e.g., vocabulary lists, audio transcripts in digital form), whereas others are designed specifically for digital mediums, thus integrating the affordances of digital technologies (e.g., digital student's book with interactive and/or multimedia features).

This paper aims to adopt a broad view of digital instructional material and, in line with the definition offered by SETDA (Fletcher et al., 2012, p. 6), take it to include smaller 'chunks' of content (e.g., video material) as well as larger elements (the whole coursebook in digital format). Furthermore, we acknowledge that the traditional division between core content and supplemental content may become blurred when it comes to the digital components of coursebook packages (Fletcher et al., 2012, p. 6). We use the terms 'print components' and 'digital components' of coursebook packages and differentiate between the mode of access and mode of use of the elements in the latter group (see Table 3 in section 4.1).

2.2. CALL material evaluation and relevant studies

In the past couple of decades, great efforts have been made in the area of CALL material evaluation, enabling teachers, students and developers to evaluate electronic materials and technology-enhanced activities in a variety of ways (Li, 2017, p. 173). Levy and Stockwell (2006) differentiate between three different forms of evaluation: (1) checklists or surveys (e.g., Son, 2005), (2) methodological frameworks (e.g., Hubbard, 1988) and (3) SLA research-based approaches (e.g., Chapelle, 2001). Checklists and surveys typically contain a series of questions or categories, whereas methodological frameworks are more descriptive and instead provide "the tool through which an evaluator can create his or her own questions or develop some other evaluation scheme" (Hubbard, 1988, p. 52). As one of the most prominent examples of the third type, Chapelle's (2001) framework is based on the principle, among others, that criteria for CALL evaluation should come from instructed SLA theory and research, and that such

criteria should be applied relative to the given context. In addition to the six criteria included in the framework (i.e., *language learning potential, learner fit, meaning focus, authenticity, positive impact, practicality*), the levels of analysis for CALL evaluation are outlined (i.e., *CALL software evaluation, the teacher-planned CALL activity, learners' performance during the CALL activity*).

Although coursebook-related digital materials are not among the most extensively researched types of materials when it comes to CALL material evaluation, there are relevant studies in the literature. In the context of Hungarian textbook publishing, Fischerné Dárdai (2009) examined the interactive whiteboard material connected to textbooks for a variety of school subjects (including the locally-published *TEAM* and *My English Book* for EFL, and *Pass auf!* for German as a Foreign Language - GFL), based on a number of pedagogical as well as technical-usability criteria. The materials were found to be characterised by a clear, modular structure and age-appropriate content, but with a low rate of problem-solving tasks and multimedia content. A follow-up study with the same focus (Fischerné Dárdai & Molnár-Kovács, 2013) presented very similar results. An important finding in connection with the present study is the tendency in material development that the digital versions of textbooks are continuously "filled up" with interactive and multimedia content, suggesting that in the near future textbooks will mainly function as a structuring element or frame for the variety of associated, interactive components (Fischerné Dárdai, 2009, p. 4).

Hismanoglu (2011) explored the integration of ICT into the five most commonly used ELT coursebooks in English Preparatory Schools of universities in North Cyprus. Audio CDs and coursebook-related publisher webpages were found for all coursebooks, CD-ROMs, DVDs and e-portfolios for one to three coursebooks, whereas none of the publications included the remaining digital elements that were examined (e.g., blog, wiki, podcast).

Dringó-Horváth (2016) analysed the websites of three GLT coursebook publishers (two global and one local) in inquiring into the digital components of six coursebook packages (two from each publisher), with a special focus on the ways in which digital cooperation is supported in these publications. According to the findings, most coursebook packages included a relatively large variety of digital components, with a high rate of downloadable, printable supplementary content and interactive learning activities with multimedia features, but a low rate of elements supporting digital cooperation. In addition, data was collected four months later and a comparison of the two sets of data showed clear shifts (e.g., new tools and content, restructured content), pointing to the changeability of the digital learning environment. The study also showed a shift towards online accessible coursebook package components, and

revealed a marked difference between local and global publications, with the latter seen as innovative for a number of reasons.

In summary, the reviewed studies have typically taken a narrower focus - in terms of either the number of publications or the number of coursebook-related digital materials (e.g. interactive whiteboard material) analysed. As opposed to this, the current study aims to explore general trends in global and local (Hungarian) ELT and GLT coursebook publishing as regards digital material development. Therefore, instead of detailed, close-up analyses of individual components, it provides a bird's eye view and examines the composition of modern coursebook packages to enable comparison - e.g., of locally and globally published coursebooks, ELT and GLT coursebooks, or current and future publications. The significance of the study lies in this look at global trends concerning coursebook-related digital materials at a time when distance learning resources are of key importance.

3. The study

3.1. Context

In Hungary each year a state-approved textbook register is made public for schools to choose from, comprising books created by state-run publishers, as well as books from private publishers which have been judged appropriate during a review and approval process by the Educational Office (Igazságügyi Minisztérium, 2019). In the case of most school subjects the majority of coursebooks found in this register are therefore the ones from state-owned publishers, as clearly seen from an analysis of the register for the 2019/2020 academic year (TANOSZ, 2019, p. 4-5). However, English as a Foreign Language and German as a Foreign Language (the two most commonly taught foreign languages in Hungarian public education - see Öveges & Csizér, 2018, p. 221) are among the few subjects with a comparatively high number of independent publications available on the list (EFL: 66%; GFL: 51% of all publications).

Another key aspect with regard to the context of the study is that although the use of freestanding digital tools and resources is becoming more and more common, most Hungarian classrooms today are characterised by coursebook-centric practices (DOS, 2016, p. 41). For this reason, exploring the digital elements of coursebook packages is of considerable importance, since they are likely to be among the resources that teachers and learners do draw upon. As part of a larger-scale inquiry into teachers' use of digital publisher materials, the current study here examines the print and digital components of the ELT and GLT coursebook packages that were

available for 4- as well as 4-6-year grammar and vocational schools to choose from in Hungary in the 2019/2020 academic year (i.e., they were found in the state-approved textbook register for the given year).

3.2. Research questions

The study was driven by the following research questions:

RQ1: What print and digital components are available for the examined coursebook packages?

- How can the components be accessed (i.e., paid vs. free access)?
- What functions do digital components have?
- Which online components are used most frequently by teachers and learners, according to publisher estimates or research data?

RQ2: What differences can be found between the digital components of the coursebook packages offered by local (Hungarian) and global publishers?

RQ3: What differences can be found between the digital components of ELT and GLT coursebook packages?

RQ4: What additional tendencies can be seen in relation to digitization in foreign language coursebook publishing?

- What digital forms of communication do publishers rely on in communicating with users?
- What plans concerning digital material development do publishers have?

3.3. Methods of data collection and analysis

The data collection methods included a structured interview in a written form conducted with area managers of publishing companies as well as the analysis of publisher websites, while a follow-up oral interview was also carried out with the participants in cases where clarification of the responses in the written interview was needed. Both types of interview were conducted in Hungarian.

The questionnaire used for the written interview was made up of three sections (see Appendix). In the first one (25 items) the respondents were asked with the help of closed-ended questions about the availability and type of access of the digital components of the given coursebook package (possible answers: Available (freely accessible); Available (paid access); Not available; I don't know). This also included a survey of different types of downloadable, printable content, e.g., activities, tests, syllabus, audio transcripts, keys, etc. (15 items). An

open-ended question followed, in which the respondents could note down any further digital elements available as part of the given coursebook package. The second section (9 items) inquired into some aspects related to the development of digital publisher materials, such as the frequency with which digital content is updated (1 item, closed-ended) and the most typical reasons behind these updates, e.g., the need to modify content based on user feedback (4 items, five-point Likert-scale). An additional focus area of the second section was the extent to which online coursebook components are used by teachers and learners, according to publisher experience or research (4 items, five-point Likert-scale). The final section (8 items) investigated further aspects connected to processes of digitization. Here, respondents indicated on a five-point Likert-scale the extent to which the listed digital forms of communication (e.g., blog, Twitter, Facebook) are used by the publisher they are affiliated with in communicating with users (5 items), and were also asked to list any further forms used in an open-ended question. Finally, a closed-ended question inquired into the possibility and expected time of complete digitization of coursebook packages, and an open-ended question aimed to elicit publishers' future plans concerning digital material development.

The questionnaire was designed in Google Forms and was filled in online. The data from the closed-ended questions were analysed with the help of SPSS, where frequency counts were obtained and percentages were calculated, whereas respondents' answers to the open-ended questions were subjected to qualitative content analysis. In addition, follow-up interviews and website analyses were used as supplementary forms of data collection with the help of which the print elements of coursebook packages were surveyed. Data gained in these ways were also included in the analysis.

3.4. Publishers and coursebook packages included in the study

All coursebook packages recommended in the state-approved textbook register for EFL and GFL classrooms in 4- as well as 4-6-year grammar and vocational schools were included in the study, i.e., 9 ELT and 12 GLT coursebook packages (Table 1). Of these 6 are local and 15 are global publications. In three cases both the German publisher of the original coursebook and the Hungarian publisher responsible for the adapted version, i.e., Cornelsen and Maxim respectively, are indicated. Due to the fact that the Hungarian state-run publisher EKE - OFI now encompasses the publications of various former publishing companies and that different area managers are responsible for the ELT and GLT coursebook packages, we included EKE-OFI (ELT) and EKE-OFI (GLT) as two separate publishers.

Table 1. ELT and GLT coursebook packages included in the study (N=21)

	Publisher	Coursebook package
ELT publications	Cornelsen / Maxim	KEY
	EKE-OFI (ELT)	Bloggers
	Macmillan Education	Gateway
	MM Publications	Full Blast
	MM Publications	Pioneer
	MM Publications	Traveller
	Oxford University Press	(New) English File
	Oxford University Press	Solutions
	Pearson Education	Focus
GLT publications	Cornelsen / Maxim	Studio 21
	Cornelsen / Maxim	Studio d
	EKE-OFI (GLT)	Kekse
	EKE-OFI (GLT)	KonTakt
	EKE-OFI (GLT)	Start-Unterwegs
	Hueber	Ausblick
	Hueber	Ideen
	Könyvtárellátó Kft.	Deutsch mit Comics
	MM Publications	Welttour Deutsch
	Raabe Klett	Direkt
	Raabe Klett	DaF Leicht
	Ziel kiadó	Kommst du mit?

4. Findings and discussion

4.1. Rate of print and digital components

The results presented here are connected to the following research question:

RQ1: What print and digital components are available for the examined coursebook packages?

In terms of print components, the student's book and the workbook are part of all coursebook packages, as was expected. The other print elements are much less prevalent: taken together, their average rate of availability is merely 38%, and it is only the teacher's book that is fairly widespread in this form, with a rate of under 60% (see Table 2). However, there is a substantial difference between ELT and GLT publications in this respect, as will also be discussed in Section 4.3.

Table 2. Frequency data of print components (N=21)

Print components	F	%
Student's book	21	100%
Workbook	21	100%
Teacher's book	12	57.1%
Vocabulary booklet	7	33.3%
Test booklet	5	23.8%

Table 3 shows the digital elements explored for the coursebook packages included in the study, with their frequency data, mode of access (online or on secondary storage device -

e.g., CD-ROM), mode of use (desktop computer/laptop, DVD player, interactive whiteboard - IWB, mobile device), as well as the form of learning they possibly support (autonomous, personalized or collaborative learning). As seen in Section 2.2, there is a variety of ways in which CALL materials can be evaluated. However, in the present study it was not our aim to evaluate the quality or appropriateness of these coursebook package components, not least because they are multimodal and have been designed with different purposes, which means using one set of criteria may prove impractical (Li, 2017, p. 176).

Nonetheless, when surveying digital publisher materials, it may be important to see whether they rely on truly innovative solutions facilitated by the digital learning environment, or are in fact merely digitized versions of their print counterparts. Therefore, in the study a distinction is made between components that are potentially more advanced from a constructivist pedagogical standpoint and those that are not. This means that first those aspects were identified which are typically considered in the literature as affordances of digital materials as opposed to print materials, namely:

- ubiquitous learning, multi-platform capability;
- multimodal resources (engaging different senses, increasing motivation);
- interactivity (supporting discovery learning);
- autonomous learning;
- personalized, differentiated learning;
- collaborative learning (Fletcher et al., 2012; Public Schools of North Carolina, 2012; Reinders & White, 2011; Zhao et al., 2010).

Based on the above, digital components were seen as potentially more advanced (indicated in bold in Table 3) if the following conditions were met:

1. the component can be accessed online, not (only) on a secondary storage device;
2. the component can be used on a mobile device;
3. the component supports at least one of the following forms of learning: (1) autonomous learning; (2) personalized, differentiated learning; (3) collaborative learning.

It is important to emphasize that with this differentiation we do not attempt to make claims about which digital coursebook components truly fulfil their innovative function - only an in-depth evaluation of each and every component would allow for such claims, which may be the subject matter of a future, related study. For instance, if a publishing company provides coursebook-related content in an LMS (Learning Management System), this does not

necessarily entail that innovative digital solutions are at play (Adams Becker et al., 2017, p. 44-45; Godwin-Jones, 2011, p. 5).

Table 3. Frequency data of digital components (N=21)

Digital component	Available N	%	Mode of access	Mode of use	Form of learning supported
Audio material on CD	21	100	secondary storage device	desktop computer / laptop	-
Supplementary material on teacher's CD- / Multi-ROM (e.g., downloadable /editable/ files, methodology support)	8	38.1	secondary storage device	desktop computer / laptop	personalized learning (in case of editable file)
Supplementary material on student's CD- / Multi-ROM (e.g., interactive materials, audio files)	5	23.8	secondary storage device	desktop computer / laptop	autonomous learning
Video material on DVD	8	38.1	secondary storage device	desktop computer / laptop / DVD player	-
Digital book on CD-ROM with interactive and/or multimedia features (e.g., for IWB)	9	42.9	secondary storage device	desktop computer / laptop / IWB	autonomous learning
Downloadable textual content (e.g., /editable/ worksheets, tests, syllabus, methodology support)	21	100	online	desktop computer / laptop / mobile device	personalized learning (in case of editable file)
Downloadable audio / video content	18	85.7	online	desktop computer / laptop / mobile device	-
Digital book online without interactive and/or multimedia features	2	9.5	online	desktop computer / laptop / mobile device	-
Digital book online with interactive and/or multimedia features	**8**	**38.1**	**online**	**desktop computer / laptop / mobile device**	**autonomous learning**
Course material in LMS	**7**	**33.3**	**online**	**desktop computer / laptop / mobile device**	**autonomous learning / personalized learning / collaborative learning**
Interactive content online	**13**	**61.9**	**online**	**desktop computer / laptop / mobile device**	**autonomous learning**
Interactive content in mobile app	**3**	**14.3**	**online**	**mobile device**	**autonomous learning**

As displayed in the table, there is a fairly large variety of digital publisher materials on offer, with two components (audio material on CD and downloadable textual content) found in all coursebook packages. Other components with a relatively high rate of availability (over 60%) include downloadable audio/video content, the digital book with interactive and/or multimedia features (accessible either on a CD-ROM or online) and interactive content online connected to coursebook units. On the other end of the scale, with low rates of availability, we find the 'flipbook' version of the digital book without any interactive or multimedia features, supplementary material on student's CD-ROM, as well as interactive coursebook-related content in mobile apps. Although the study does not provide any data on the reasons behind these low rates, it can be speculated that non-interactive flipbooks and student's CD-ROMs are rare because their more advanced or more easily accessible versions (i.e., interactive digital books; online interactive content) have become widespread. As for mobile apps, although only 14.3% of all coursebook packages offer them with content that is directly connected to the coursebook material, publisher apps that are not coursebook-dependent are in fact relatively common (see rates in Section 4.3). This latter finding is not surprising, given that studies have confirmed students' positive attitudes to using mobile devices as aids to (autonomous) foreign language learning (see for example Howlett & Waemusa, 2019).

Interestingly, a number of components can be found in both print and digital form in the case of many coursebook packages. For instance, in addition to the print version, the digital version of the student's book with interactive and/or multimedia features is part of 61.9% of all coursebook packages (with those accessible on CD-ROM and those found online taken together). In seven coursebook packages the teacher's book is available in print as well as digitally, whereas other coursebook packages with this component offer it in either print or digital form (five and seven cases, respectively). This means that if we take ELT and GLT publications together, the digital teacher's book is more widespread than its print counterpart (66.7% vs. 57.1%), although, as mentioned above, there is a considerable difference between the two groups of publications in this respect. Moreover, the digital version of this component is typically freely accessible: teachers can either request it directly from the publisher or download it from the publisher's website in the case of *Bloggers*, *Focus* or *Deutsch mit Comics*, for example (see a comparison of free- and paid-access elements in Section 4.2). Although vocabulary lists are found at the back of the print student's book or workbook in 20 out of 21 coursebook packages, as separate print vocabulary booklets (e.g., the so-called 'Companion' booklet) they are available in only seven cases, whereas in digital form they are included in 11 coursebook packages (52.4%). Finally, tests connected to coursebook content

(e.g., progress tests) are also more common in digital form, with two-thirds (66.7%) of the coursebook packages providing this version of the component.

Another pattern seen from the results is that some components on secondary storage devices are accompanied or replaced by those online. For instance, interactive content supporting autonomous learning, traditionally found on student's CD-ROMs, is now typically available online (23.8% on CD-ROM; 61.9% online). Furthermore, the listening material on paid-access audio CDs is an element of all coursebook packages, but in 15 cases (71.4%) the same audio material is also found online, mostly in freely-accessible form.

4.2. Type of access, functions and rate of use of components

The results discussed here are connected to the following research questions, all of which are part of RQ1 (see section 3.2):

- How can the components be accessed (i.e., paid vs. free access)?
- What functions do digital components have?
- Which online components are used most frequently by teachers and learners, according to publisher estimates or research data?

On examining how coursebook package components can be accessed, we find that all print components are paid-access except for one: the teacher's book for *KEY* can be ordered free of charge from the publisher (Cornelsen/Maxim). Similarly, digital materials found on secondary storage devices (i.e., elements toward the left side in *Figure 1*) are typically paid-access, whereas most online elements are freely available, especially downloadable textual, as well as audio/video content.
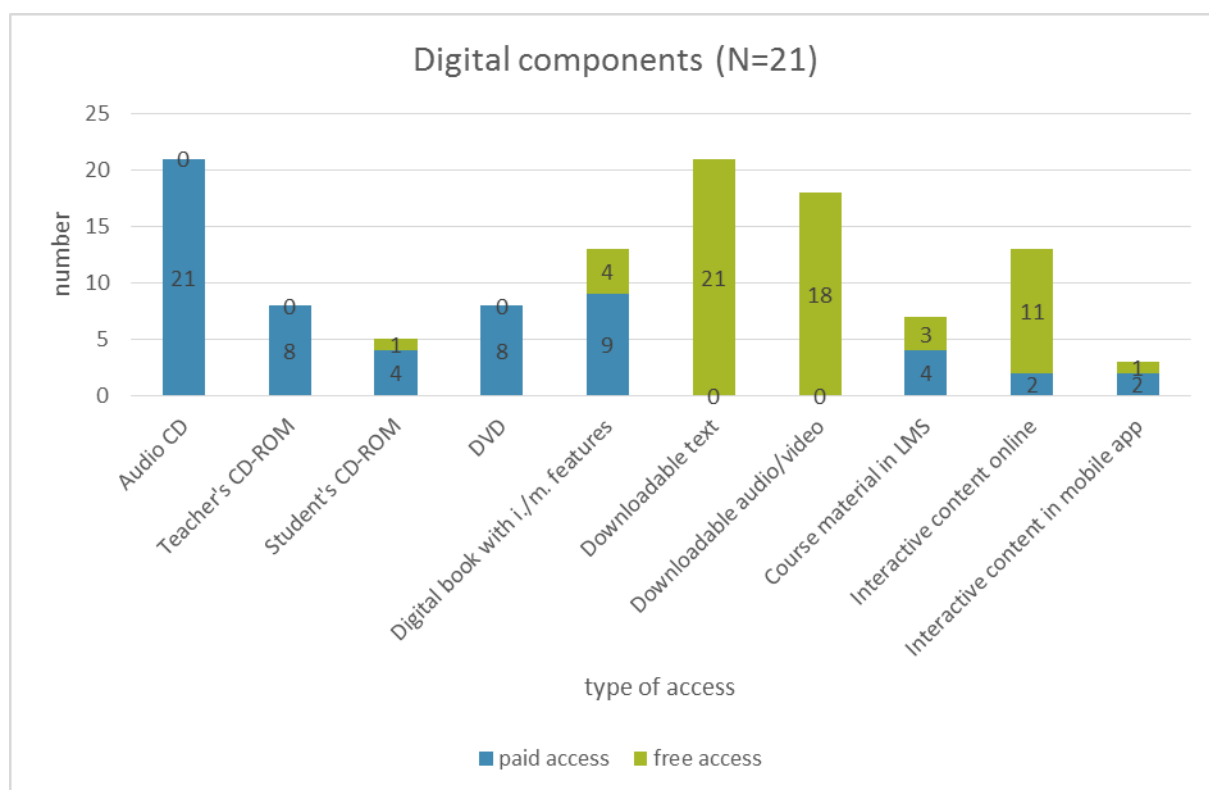
Figure 1. Rate of digital components according to type of access

It is interesting to see that the type of access does not necessarily depend on the extent to which a component can be described as more advanced from a constructivist perspective: some of these components are freely accessible. The most notable example is interactive content online, which is paid-access in only two cases. As some respondents made clear, publishers try to ensure that certain materials (e.g., progress tests) are accessed by the teacher only, which is why the components comprising these materials are paid-access.

In addition to type of access, the functions of the downloadable coursebook package components were also surveyed, since these were the digital elements found in the case of all publications. The results show that the "preview" function is quite common, assisting potential customers in familiarizing themselves with the coursebook. As could be anticipated, all elements with this function (e.g., sample page/unit, full table of contents) can be accessed free of charge. Naturally, the most common function is that related to study materials (e.g., activities, tests, vocabulary lists, audio transcripts), but there is a variety of elements providing methodological or learning management support as well (e.g., lesson plan, digital teacher's book, see Figure 2).
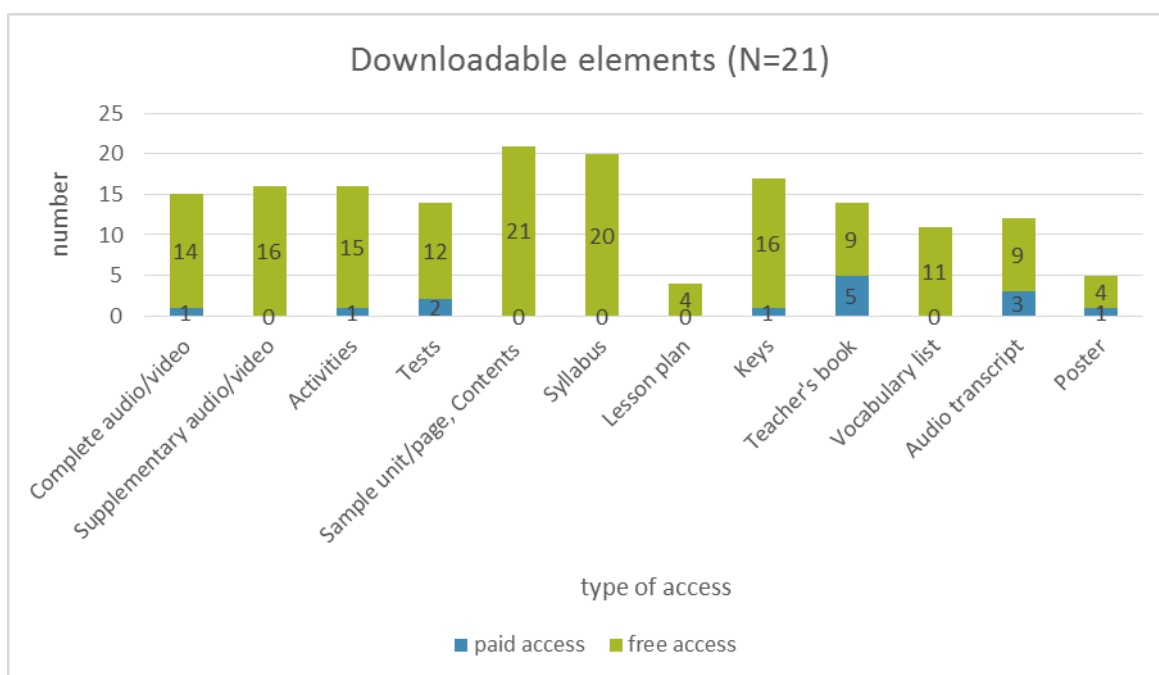
Figure 2. Rate of downloadable elements according to function and type of access

The participating area managers were also asked about the extent to which online coursebook package components are used by teachers and learners according to their knowledge or any research carried out by publishers. In this question we did not differentiate between publisher estimates and concrete research data and did not inquire about the methods of data collection used in the case of the latter - the findings should be interpreted with this caveat. The participants indicated on a scale of 1 to 5 the rate of use of the components (1= never used, 5= regularly used), or checked the options "Not available" or "I don't know". The average rates can be seen in Table 4 - the data for the abovementioned two latter options were not included here. The findings clearly show that, according to publisher estimates or data, downloadable teacher's materials are the most commonly used elements (avg. 4.45), whereas downloadable student's materials are the least popular (avg. 2.86). In fact, three of the four groups of materials have a relatively high rate of use, with teachers evidently relying on those elements the most which provide methodological or learning management support. However, it is important to point out in connection with downloadable student's materials that only seven out of the twelve respondents rated their use on the given scale: one respondent could not answer and four respondents indicated that this group of materials is not available from their publisher. It is also important to highlight that in the context of public education student use of digital resources may be highly dependent on the extent to which teachers recommend or require their use - especially in the case of coursebook package components.

Table 4. Rate of use of online components based on publisher estimates or data

	N (=12)	Average rate of use
Downloadable teacher's materials (e.g., online lesson plans, syllabi)	11	4.45
Downloadable supplementary materials (e.g., audio/video materials, worksheets)	11	4.27
Interactive supplementary materials (e.g., online interactive tasks)	9	4.00
Downloadable student's materials (e.g., flashcards, mind maps)	7	2.86

4.3. Comparative analysis of local and global ELT and GLT publications

The results presented in this section are related to the following research questions:

RQ2: What differences can be found between the digital components of the coursebook packages offered by local (Hungarian) and global publishers?

RQ3: What differences can be found between the digital components of ELT and GLT coursebook packages?

There are marked differences between the local (Hungarian) and global publications included in the study in terms of both their print and their digital components. As mentioned above, all coursebook packages include a print student's book and workbook. However, no local publication has the print teacher's book component, whereas this is present in 80% of the global publications. Print vocabulary and test booklets are also more common in global coursebook packages, although the difference between the two groups of publications is less striking in these cases (Table 5.). As seen in Table 6, the findings are very similar as regards the publisher materials found on secondary storage devices.

The difference between ELT and GLT coursebook packages is more subtle: the rate of most components is more-or-less balanced between these two groups, with one or two notable exceptions. One of these is the print teacher's book, which is found in all but one ELT coursebook packages, whereas it is part of only one-third of their GLT counterparts. As for the resources on secondary storage devices, a difference can be seen between ELT and GLT publications in the rate of two components: the materials accessible on the teacher's CD-ROM (ELT: 66.6%; GLT: 16.6%) and the digital book with interactive and/or multimedia features accessible in the same way (ELT: 66.6%; GLT: 25%, see Table 5 and 6).

Table 5. Frequency data of print components of local/global, and ELT/GLT coursebook packages

	Local coursebook packages (N=6)		Global coursebook packages (N=15)		ELT coursebook packages (N=9)		GLT coursebook packages (N=12)	
	F	%	F	%	F	%	F	%
Print student's book	6	100%	15	100%	9	100%	12	100%

Print workbook	6	100%	15	100%	9	100%	12	100%
Print teacher's book	0	0%	12	80%	8	88.8%	4	33.3%
Print vocabulary booklet	1	16.6%	6	40%	4	44.4%	3	25%
Print test booklet	1	16.6%	4	26.6%	1	11.1%	4	33.3%

Table 6. Frequency data of secondary storage devices of local/global, and ELT/GLT coursebook packages

	Local coursebook packages (N=6)		Global coursebook packages (N=15)		ELT coursebook packages (N=9)		GLT coursebook packages (N=12)	
	F	%	F	%	F	%	F	%
Audio CD	6	100%	15	100%	9	100%	12	100%
Student's CD-ROM	0	0%	5	33.3%	2	22.2%	3	25%
Teacher's CD-ROM	0	0%	8	53.3%	6	66.6%	2	16.6%
DVD	0	0%	8	53.3%	4	44.4%	4	33.3%
Digital book on CD-ROM with interactive and/or multimedia features	0	0%	9	60%	6	66.6%	3	25%

The frequency data for all other digital components in our comparison of local/global, and ELT/GLT coursebook packages are presented in Table 7. This shows that a significant difference between ELT and GLT publications is found only in terms of the course material they provide in LMSs: these are included in 77.7% of ELT coursebook packages, whereas GLT publications do not have this component. Still, apart from this and the two other previously mentioned differences, it cannot be stated that ELT coursebooks are supplemented by a considerably wider range of digital elements.

It is true of both local and global publishers that they provide online, downloadable audio, video and textual content for most of their publications included in this study. However, the digital coursebook components which we previously defined as potentially more advanced from a constructivist pedagogical standpoint are not characteristic of the coursebook packages of local publishers. The most striking difference in this regard can be seen in the availability of interactive online content (local: 16.6%; global: 80%) and the availability of the digital book with interactive and/or multimedia features, accessible online (local: 0%; global: 53.3%). It is also worth mentioning that while no local publications provide course material in LMSs, this digital component is part of almost half of all global publications. In addition, although the rate of mobile apps directly connected to coursebook content is low in both groups, publisher apps that are independent of coursebooks are quite common in the case of global publishers (71.4% offer them), but are not available in the case of their Hungarian counterparts. In summary, there is a clearly discernible difference between the two groups of publications in terms of both the quantity and the quality of their digital elements, where global publishers can be said to be

leading the way. Nonetheless, it is important to emphasise that the digital components defined here as potentially more advanced can be seen as truly more advanced only if they meet certain conditions (see Section 4.1). The scope of the present study was not extended to the detailed analysis of these individual components; therefore, our findings as regards differences in quality should be interpreted with this caveat.

Table 7. Frequency data of online accessible components of local/global, and ELT/GLT coursebook packages

	Local coursebook packages (N=6)		Global coursebook packages (N=15)		ELT coursebook packages (N=9)		GLT coursebook packages (N=12)	
	F	%	F	%	F	%	F	%
Downloadable textual content	6	100%	15	100%	9	100%	12	100%
Downloadable audio/video content	5	83.3%	13	86.6%	7	77.7%	11	91.6%
Digital book online without interactive and/or multimedia features	0	0%	2	13.3%	1	11.1%	1	8.3%
Digital book online with interactive and/or multimedia features	0	0%	8	53.3%	3	33.3%	5	41.6%
Course material in LMS	0	0%	7	46.6%	7	77.7%	0	0%
Interactive content online	1	16.6%	12	80%	5	55.5%	8	66.6%
Interactive content in mobile app	0	0%	3	20%	1	11.1%	2	16.6%

4.4. Additional aspects regarding digitization in foreign language coursebook publishing

The results presented in this section are connected to the following research questions:

RQ4: What additional tendencies can be seen in relation to digitization in foreign language coursebook publishing?

- What digital forms of communication do publishers rely on in communicating with users?
- What plans concerning digital material development do publishers have?

Apart from questions concerning the print and digital components of coursebook packages, the study also inquired into publishers' use of digital forms of communication, as well as their future plans in connection with digital material development. The findings indicate that the publishing companies do not communicate very regularly with users in the listed forms. As seen in Table 8, nine out of twelve publishers use newsletters for this purpose, seven have

Facebook pages and YouTube channels, five have blogs and only one has a Twitter account. On a scale of one to five regarding frequency of use (1= we never use it, 5= we regularly use it), publishers' average usage exceeds the rate of "3" only in the case of newsletters and publisher Facebook pages.

Table 8. Publishers' use of digital forms of communication: Availability data and average usage

	Not available / Unable to answer (N=12)	**Available (N=12)**	**Average usage**
Blog	7	5	3.00
Twitter	11	1	2.00
Facebook page	5	7	3.43
YouTube channel	5	7	2.14
Newsletter	3	9	3.44

The final two questions in the questionnaire explored publishers' future plans: namely the possibility of complete digitization and further plans in relation to digital material development. Our presumption that coursebook publishing is heading toward complete digitization in the long run is supported by seven out of eleven responses; moreover, six of the respondents predict this will happen in the near future. Interestingly, it is typically the Hungarian publishers that have such plans (Table 9). Further research could be carried out to determine the reasons behind this finding.

Table 9. Local and global publishers' plans concerning complete digitization

		N=11
Local publishers	Planning complete digitization	5
	Not planning complete digitization	0
Global publishers	Planning complete digitization	2
	Not planning complete digitization	4

The open-ended question regarding publishers' concrete future plans yielded four responses about interactive tasks and three responses mentioning a digital form of the coursebook: "eBook"; "the projectable form of the coursebook"; "digital coursebook". Further plans, written by one respondent each, also relate to supplementary materials: e.g., digitally available lesson plans, exercises and games, PowerPoint presentations in connection with coursebook content, and materials designed for dyslexic learners were all mentioned. In addition, one respondent reported upon the publisher's plan to start e-Learning courses, and another respondent pointed out that the directions publisher materials development can take are

determined by feedback from users: "Based on teachers' needs and feedback we continuously increase the number of digital materials. In the near future we expect to offer lesson plans and further materials, and teachers will be more aware of the materials available". What is claimed here is the possibility that teachers are not fully aware of the variety of digital materials provided by coursebook publishers. As part of the second phase of the research discussed here, a survey is currently being conducted with Hungarian secondary school teachers of EFL and GFL on their awareness and use of digital publisher materials as compared with that of freestanding digital resources.

5. Conclusion and future research

According to the findings of this study, all the explored coursebook packages include several digital components. Print publications are often available in digital form as well, and coursebook packages with a traditional component (e.g., teacher's book) found exclusively in digital form are quite common. A number of different publisher materials that used to be accessible on secondary storage devices (e.g., audio material on CD, supplementary activities and worksheets on teacher's CD-ROM) are now (also) provided online, typically free of charge. In addition, although quite a few publishers offer their own mobile apps, most of these are not directly connected to coursebook content.

The difference between the coursebook packages of local (Hungarian) and global publishers is clearly discernible in terms of both the quantity and quality of their digital components. For instance, the elements defined as methodologically more advanced (e.g., digital book online with interactive and/or multimedia features) are not part of Hungarian coursebook packages. Although ELT coursebooks are generally considered innovative compared with the publications related to other modern foreign languages (Allen, 2015, p. 250), no striking difference has been found between ELT and GLT coursebook packages, apart from a small number of cases (e.g., print teacher's book, course material in LMS).

According to publisher estimates or research data, downloadable teacher's materials (e.g., those providing methodological or learning management support) are the most commonly used online coursebook-related components, but downloadable and interactive supplementary online materials also have a fairly high rate of use. As for communicating with users, publishers typically rely on newsletters and their Facebook pages for this purpose, but these forms of communication are not used very frequently. Based on the participants' responses it can be concluded that most publishing companies are planning complete digitization, whereas

their more immediate plans include the development of interactive activities and digital versions of the student's book.

Evidently, it is by providing a relatively wide range of digital materials that the foreign language coursebook publishing industry is trying to keep pace with external tools and resources. Since public education in Hungary is coursebook-centric (DOS, 2016, p. 41), it is possible that educators are using these materials quite extensively in their daily practice. Therefore, as part of the second phase of the study reported on here, the extent to which teachers rely on these digital publisher materials as compared with freestanding digital resources needs to be examined. In addition, it would be interesting to see how this array of materials changes year by year in terms of the rate, type of access or functions of digital coursebook package components. Further studies could be carried out to provide in-depth analyses of the components viewed here as potentially more advanced for each coursebook - this way, the extent to which they truly fulfil their innovative function could be determined.

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Appendix: Questionnaire for publishers

The digital components of coursebook packages

1. Which of the following digital components are available for [*the given coursebook package*]?

	Available (paid access)	Available (freely accessible)	Not available	I don't know
Digital book online without interactive and/or multimedia features				
Digital book on CD-ROM with interactive and/or multimedia features (e.g., for IWB)				
Digital book online with interactive and/or multimedia features				
Course material in LMS				
Interactive content online				
Interactive content in mobile app				

2. Which of the following digital components are available for [*the given coursebook package*]?

	Available (paid access)	Available (freely accessible)	Not available	I don't know
Audio material on CD				
Video material on DVD				
Supplementary material on teacher's CD- / Multi-ROM (e.g., downloadable /editable/ files, methodology support)				
Supplementary material on student's CD- / Multi-ROM (e.g., interactive materials, audio files)				

3. Which of the following downloadable components are available for [*the given coursebook package*]?

	Available (paid access)	Available (freely accessible)	Not available	I don't know
Downloadable complete audio and/or video material				
Downloadable supplementary / sample audio and/or video material				
Sample page/unit/table of contents				
Downloadable syllabus				
Downloadable lesson plan				
Downloadable key (e.g., for book, workbook				

or tests)				
Downloadable Teacher's Book				

4. Which of the following downloadable components are available for [*the given coursebook package*]?

	Available (paid access)	Available (freely accessible)	Not available	I don't know
Downloadable editable activities				
Downloadable editable tests				
Downloadable non-editable activities				
Downloadable non-editable tests				
Downloadable vocabulary lists				
Downloadable audio transcripts				
Downloadable poster				
Downloadable material for dyslexic learners				

5. What further digital components are available for [*the given coursebook package*]?

Aspects related to the online components of coursebook packages

6. How often are the online components of coursebook packages (e.g., downloadable activities/tests, interactive content) modified or updated?
  Every 1-6 months
  Every 7-12 months
  Every 12+ months
  I don't know

7. What are the most typical reasons for modifying or updating the online components of coursebook packages (e.g., downloadable activities/tests, interactive content)? (1= not at all typical, 5= most typical)

	1	2	3	4	5	I don't know
Technological development						
Changed circumstances (e.g., changes in syllabus, outdated content)						
User feedback (e.g., errors, usage difficulties)						
Changes regarding personnel						

8. Based on estimates or research carried out by the publisher, how often are the following online coursebook components used by users? (1= never used, 5= regularly used)

	Not available	1	2	3	4	5	I don't know
Interactive supplementary materials (e.g., online interactive tasks)							
Downloadable supplementary materials (e.g., audio/video materials, worksheets)							
Downloadable teacher's materials (e.g., online lesson plans, syllabi)							
Downloadable student's materials (e.g., flashcards, mind maps)							

Digital forms of communication and future plans

9. How often are the following digital forms of communication used by the publisher in communicating with users (i.e. learners and teachers)? (1= never used, 5= regularly used)

	Not available	1	2	3	4	5	I don't know
Blog							
Twitter							
Facebook page							
YouTube channel							
Newsletter							

10. Any further digital forms of communication used by the publisher in communicating with users:

11. Is the publisher planning the complete digitization of coursebook packages? If yes, when?
      No, the publisher is not planning complete digitization
      Yes, in the near future (before 2030)
      Yes, but later (after 2030)
      Yes, but the time frame is not specified
      I don't know

12. Please write a few sentences about the publisher's future plans concerning digital material development.

THE EFFECTS OF ONLINE LEARNER-DRIVEN FEEDBACK
ON IELTS WRITING SKILLS VIA GOOGLE DOCS

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Abstract

This study reports the results of a mixed-methods approach to investigate the impact of peer online learner-driven feedback (LDF) using Google Docs and peer-editing in a face-to-face classroom on EFL learners' writing skill. As this study was conducted using a quasi-experimental design, two intact groups, each including twenty EFL learners, were selected as the participants of the study. They were attending an IELTS preparation course at a language school in Iran. To assess the learners' IELTS academic writing skills, we used academic writing task 1 and task 2 and conducted semi-structured interviews to explore the learners' perceptions towards the impact of online learner-driven peer-editing on writing tasks. An independent-samples t-test, along with two one-way MANCOVA, was used to analyse the quantitative data. The results showed that LDF-based peer-editing significantly enhanced the learners' academic writing skills, compared to the conventional in-class feedback. The thematic analysis used to analyse the qualitative data shed light on the learners' positive perceptions towards the effect of online learner-driven peer-editing on academic writing skills.

Keywords: learner-driven feedback (LDF); peer-editing; academic writing; Google Docs; IELTS

1. Introduction

A number of studies have been conducted to investigate different types of feedback in language learning. Nowadays, traditional types of feedback have been replaced by more innovative techniques in the field, such as learner-driven feedback (Fielder, 2016) and, by extension, peer-feedback (Kieser & Golden, 2009). The inclination towards the two techniques is of high importance (Goldstein, 2004) since a large proportion of students are positively oriented towards peer feedback, specifically delivered in pairs rather than individually, which is reportedly due to constructive collaboration, leading to learning from each other, thereby improving their grammatical accuracy (Alshuraidah & Storch, 2018). Also, Cañabate, Nogué, Serra & Colomer (2019) stated that this improvement is due to interpersonal emotional bonds with peers that are encouraged in the two-fold feedback procedure. Firstly, it is argued that peer feedback could be beneficial for both the feedback provider and the receiver (Huisman, Saab, van den Broek & van Driel, 2018). Secondly,

learner-driven feedback is argued to build up a feeling of security and respect, thereby raising its efficiency (Dam, 2011). Likewise, Twu (2009) argued that positive social interaction requires deep rich social contexts to be presented before any effective learning occurs. Effective educational online tools are today turning to the state-of-the-art devices with which learners have reported ease and an increased amount of comfort in interaction and communication with their peers (Saeed, Ghazali, Sahuri & Abdulrab, 2018). Online educational interaction is facilitative and takes place as both SCMC (synchronous computer-mediated communication; using spoken informal communication) and ACMC (asynchronous computer-mediated communication; utilizing the patterns of written discourse) (Taguchi & Sykes, 2013). They not only encourage and facilitate socialization but also lead to the development of social skills, specifically foreign language mastery. Moreover, Noroozi and Mulder (2016) highlighted the positive influence of online peer feedback environments on students' motivation and satisfaction.

Learner-driven feedback (LDF) has recently been considered as an important area of research in feedback research. According to Maas (2017), LDF is a type of feedback that is driven and controlled by learners while performed by teachers. Maas believes that learners could ask their teachers to provide them with the intended type of feedback through recordings, emails, annotations, and handwritten feedback, which results in enhanced learning commitment and evaluation. Learners' input and needs play a crucial role in learner-centered courses in which instructors help learners by increasing a sense of autonomous learning, thus raising their self-esteem (Mohr, 2010).

Online peer feedback could be provided using blogs and wikis that facilitate sharing texts, editing, modifying and deleting content (Bloch, 2008; Lamy & Hampel, 2007). Yang (2010) stated that Google Docs, a more innovative Web 2.0 application, included the functions of both blogs and wikis. However, it is a Web 2.0 application that encourages users to perform various actions such as creating, sharing, and editing documents, spreadsheets, presentations, and forms online (Perron & Sellers, 2011).

Previous research in feedback showed that the utilization of learners in peer-centered feedback is marked as more constructive in comparison with the traditional techniques (Fielder, 2016; Ballantyne, Hughes & Mylonas, 2002). Noroozi, & Mulder (2016) reported peer feedback as an effective approach contributing to the level of progress and the rate of development among learners; however, to the best of our knowledge, no study has ever been carried out to investigate the effects of online LDF-based peer-feedback in an EFL context. Accordingly, this study is intended to delve into the comparison between face-to-face peer-

editing and online learner-driven peer editing, and how effective learner-driven online peer-editing using Google Docs is in developing IELTS learners' academic writing skills.

2. Literature review

2.1. Online feedback

Feedback is categorized under two subtypes, with the first one being summative, delving into the final product of a language class and the latter being formative, exploring and addressing students' problems in the process of learning rather than the final result at the end of the semester (Hyland, 2003). According to Hyland and Hyland (2006), summative feedback has given way to its formative counterpart. Although teachers are nowadays aware of the importance of the learning process, Lee (2012, p. 60) claims that "teacher feedback serves primarily summative purposes, and its formative potential is underutilized." It is argued that formative feedback by teachers may be short of quality as it is a time-consuming process, so their provided feedback might fail to address students' needs and desires. To Liu and Carless (2006, p. 279) feedback is "a communication process through which learners engage in reflective criticism and enter into dialogues related to performance and standards of other students' work."

Google Docs has been used as one of the possible e-feedback technologies in a number of studies (Alharbi, 2020; Ishtaiwa & Aburezeq, 2015; Bradley & Thouësn, 2017; Ebadi & Rahimi, 2017). These studies suggest that Google Docs can serve as a valuable peer writing and editing forum since learners can use the editing functions to compose, upload and edit their writing. In addition, teachers and learners will exchange written feedback using the commenting feature and use the response function to respond to feedback (Alharbi, 2020).

Saeed and Al Qunayeer (2020) identified multiple factors clustered under three dimensions in teacher e-feedback in Google Docs based on the written feedback of the instructor on 10 L2 academic writing undergraduates for a course in language and linguistics at a Malaysian public university. The results showed that interactive feedback often led to the discussion of problems in their writing by students, involvement in comprehensive text revisions, and feedback negotiation in supporting interactive feedback practices in writing courses. Alharbi (2020) explored the potential of Google Docs in a writing course at a large Saudi university in promoting and supporting pedagogical practices. The findings show that Google Docs supports writing development. Hyland (2003) stated that it is likely that students do not fully understand the given feedback or act on it. Pintrich and Schunck (2002) point out

that learner-driven feedback could propel adult students to better learn and respond more effectively to the situational demands of learners.

2.2. Learner Driven Feedback (LDF)

Written texts have experienced a shift from the learners responding to the teacher's comments and suggestions in subsequent drafts, thereby, feedback starting to transform to dialogues between teacher and student (Hyland & Hyland, 2006). Tudor (1996) defines learner-driven feedback as the one that is different from traditional approaches to teaching. It requires students to have an active role in their study program concerning goal-setting and selection of methodology. It includes the change of focus from the tutor to the learner, also referred to as the post-communicative era (Benson & Voller, 1997). As the name suggests, LDF is defined as a type of feedback given by teachers, but controlled by students, which enables the latter to drive the feedback by asking for specific types of feedback such as recordings, emails, annotations and handwritten. Also, students could decide which aspect of their work should be given feedback on (Fielder, 2016). Maas (2017) explored students' receptivity to learner-driven feedback (LDF) approach and addressed their preferences. A high degree of student receptivity and many other compelling explanations for piloting LDF on EAP writing courses are highlighted in the results from the comprehensive survey data, several of which may also explain testing the method in other ELT classrooms. Maas believes that LDF has a positive impact on learners' autonomy and helps them take responsibility for their learning and progression. Feedback received by learners digitally (e.g., tracked changes, annotations, emails, or audio recordings) is believed to enhance motivation and increases the amount of data exchanged. Besides, it has shown advantages in both higher education (McCabe, Doerflinger & Fox, 2011) and foreign language instruction (Cloete, 2014). Carless, Salter, Yang & Lam (2011) stated that as interactive feedback increases engagement amongst students, it is highly effective. Maas (2017) studied the effectiveness and usability of LDF for students of English for academic purposes (EAP). They were given a choice of delivery modes as well as help with asking useful questions. In the first exploration, students reported positive outlooks towards LDF for giving feedback on language accuracy and text structure in draft essays; specifically, they showed satisfaction to the digital mode of the feedback. Moreover, they experienced positive changes in essay results. Maas (2017) reported that email and audio recording feedback were regarded as the most effective in reducing errors in academic writing skills and issues with text structure. Also, using annotations was seen as the

most suitable type of LDF, resulting in a better understanding of language accuracy and treating local errors by learners.

According to Alshuraidah and Storch (2019), collaboration in feedback results in the individuals engaged in pooling their resources and negotiating the sort of feedback delivered. They also claim that when LDF is utilized; learners are propelled to more language engagement, thus having access to more opportunities in terms of language learning. Besides, they reported that when collaborating, students exchanged more feedback than the traditional in-class format. The learners in their study stated that individually driven feedback was of lower quality compared to LDF involving collaborations among peers.

Peer-feedback, which is also referred to as peer editing or peer evaluation, is a process involving students reading their fellow students' works and providing them with feedback. Mangelsdorf (1992) opines that peer feedback does not merely mean reading other fellow students' works; the focus is not only on the surface structure errors but also explores the meaning and construction-based structures within the text. Feedback either takes place between two students who are seen as 'dyads' or groups, including more than two people (Mendonça & Johnson, 1994, p. 747). The benefits of peer-feedback include engaging students in an interactive activity and following a process-oriented technique. Another main advantage of peer feedback, as Falchikov (2001) points out, is its learning dimension, which is reinforced when students actively engage in articulating growing understandings of the subject matter. Ballantyne, Hughes and Mylonas (2002) state that students enjoy peer feedback as it is considered as motivating for them to reflect on their work.

Peer feedback can lead to better results in learning if combined with technology (Chen, 2016). In a blended learning environment, Kim and Lee (2018) explored the impact of peer response on the lexis and grammatical structure of students in L2 writing. Eight university students who were enrolled in an English writing course and participated in online and offline peer response sessions were subject to a case study. The results showed that direct correction was the most frequently occurring form of input, while more indirect correction occurred in the blended context in online peer response sessions. The effect of online peer-editing using Google Docs and peer-editing in a face-to-face classroom on the academic writing skills of EFL learners was explored by Ebadi and Rahimi (2017). The findings showed that peer-editing significantly improved the academic writing skills of the learners in both the Google Docs context as well as in the face-to-face classroom. The thematic analysis used for the analysis of qualitative data illustrated the positive opinions of the students about the effect on academic skills of online editing. According to Ebadi and Rahimi (2017), peer

feedback could be even more beneficial when it takes place using online platforms such as Google Docs. Moreover, Razak & Saeed (2014) and Saeed & Ghazali (2016) stated that EFL students benefitted from diverse strategies, namely organizing, adding, substituting and deleting, which led to the overall quality of writing.

3. Methodology

3.1. The aim of the study

This study aims at answering the following questions:

1- Are there any statistically significant difference between face-to-face peer-editing and learner-driven online peer-editing using Google Docs in developing IELTS learners' academic writing skills?

2- What are EFL learners' attitudes towards learner-driven online peer editing using Google Docs?

To achieve the goal, the current study employed a sequential explanatory mixed-methods design (Creswell, Plano Clark, Gutmann & Hanson, 2003) to address the research questions.

3.2. Participants and the context

Forty participants, between 18 and 30 years of age, were selected through non-randomized sampling based on availability from IELTS Core language school in Iran, who enrolled in an intensive IELTS preparation writing course (seasonally writing course). All of the students were ranked B2 in terms of their language proficiency level. The class was taught by an instructor, holding a Master's degree in applied linguistics. Students were taught the materials twice per week, with all the sessions being 24, and who were then divided into two groups in which there were ten females and ten males in each group, all of whom being Iranians whose native language was Persian. They used cell phones outside the class to revise the drafts and keep in touch with each other.

Regarding ethical considerations, pseudonyms were given to the participants to protect their identity as L1, L2, L3, ….. They were assured that the results, especially the interview data, would remain strictly confidential and would be used just for the stated research purpose.

A pre-test adopted from the IELTS Cambridge authentic Cambridge test books was administered before the course started to determine the writing proficiency level of the learners according to the Common European Framework of Reference (CEFR) criteria, which

is a guideline used to describe achievements of learners of foreign languages across Europe. The pre-test included an IELTS task 1 and a task 2 prompt, adapted from the IELTS Cambridge book series. The students were divided into two groups of A and B to be checked by their peers via the Google Docs which was chosen for the critique and peer review owing to the effectiveness. It had shown concerning the previous research (Holliman & Scanlon, 2006; Sharp, 2006; Godwin-Jones, 2008; Ebadi & Rahimi, 2017). The data of the participants in groups A (control) and B (experiment) are summarized in Table 1. Group A comprised 20 students, with 10 of whom being male and the rest being female; likewise, the same categorization was applied for the experiment group (B).

Table 1.Participants of the study (Groups A and B)

Gender	Level	NO.
Female	B2	20
Male	B2	20

3.3. Design and procedure

The course was held in IELTS Core institute from March 2019 to June 2019. The materials used in this experiment were the Academic Writing Series (Oshima & Hogue, 2013). This course was intended to establish a sense of familiarization among students concerning the concepts and conventions of academic writing as well as providing the learners with opportunities for developing their academic writing skills. Additionally, the course benefitted from diverse activities to ensure learning. First, the pre-test was conducted (week 1) whose aim was to explore the proficiency level of the learners. Over the period between the pre and post-tests, the study participants were instructed on the use of Google Docs to familiarize them with the technical context and the content issues. To this end, the instructor gave a two-week-long course to the students in a computer laboratory to familiarize them with all the strategies, functions, and features in Google Docs. Considering the instruction issues, the instructor also taught students the analysis of the IELTS writing analysis criteria, namely task achievement, coherence and cohesion, lexicon, and grammatical range and accuracy. The participants were told to create Google Docs profiles and share them with the other group members as well as the instructor. Subsequently, similar to Kim (2010), by using Google Docs and considering LDF, the learners discussed with their peers what sections of their texts needed revision by their peers asynchronously. During the procedure of online LDF, albeit under the instructor's supervision, the students responded to what their peers required them to

comment on through Google Docs. This collaborative critique included a series of LDF-oriented comments which were exchanged by peers via Google Docs, with each comment representing a specific type of error, highlighted with different colors. The objective was to ensure that the participants received the required type of feedback as for using appropriate vocabulary, collocation, idiomatic expressions, metaphors, prepositions, verbal phrases, and other language features (i.e., lexicon), and range of grammar structures and tenses, and punctuation (i.e., grammatical range and accuracy). In order to follow the procedures above, the learners were given a sample in which doing the process of editing was illustrated.

In the last session of the class, the post-test was given, subsuming writing tasks 1 and 2 with the same difficulty levels and procedures as in the pre-test. Therefore, for task 1, the participants in both groups were given a line graph to summarize according to the given instructions, and for task 2, they were asked to write about the advantages and disadvantages of a given topic. It was conducted to investigate the effect of LDF-based peer response and writing instructions on the writing accuracy and vocabulary knowledge of the students. At the end of the experiment, the participants were interviewed individually in English; this procedure took place by administering semi-structured interviews whereby each participant was enquired with respect to the impact of LDF on their improvements and then regarding their perception of incorporating Google Docs as a tool of online editing in the procedure. Each interview took 20 minutes and was audio recorded to be transcribed for the data analysis (see Appendix 2 for interview questions). Furthermore, the interview was carried out with the group achieving higher results in the post-test to clarify and explain the quantitative results and findings.

3.4. Data collection tools and procedures

3.4.1. Writing assignments

In this research, the participants were given eight process-oriented essays and eight graph summarizations, whose results were revised by their peers in terms of grammatical accuracy and lexical resources, a term referred to in the IELTS marking rubrics. For each writing assignment, one draft was written. The pre-writing course was presented to the students in the classroom by the instructor, and after the class, they were assigned to write an essay and, by extension, a graph summary in 60 minutes at home. After the drafts were written, peers were asked to revise the writing tasks using ACMC (Asynchronous computer-mediated communication, utilizing the patterns of written discourse). After writing all the assignments,

the teacher used reflective journals to ensure the effectiveness and usability of the method. All writing assignments' topics were general and did not require expert knowledge (see Appendix 1). Moreover, eight different figures were given to students (IELTS Cambridge books samples) considering the variety which included pie charts, bar charts, line graphs, maps, tables and flow charts.

3.4.2. Classroom observation recordings

Peer response sessions were held both online and offline, which was an attempt to observe feedback types provided by peers and the interaction taking place between them. Also, grammatical accuracy and lexical development were two criteria to be checked by the teacher. The natural observation was carried out by the instructor as unstructured and natural (Bailey, 2006), writing down notes and reflective observation logs in each observation. The offline revisions were voice recorded and in both online and offline peer responses Persian was spoken, which was later transcribed by the instructor. Online classrooms were also observed by one of the researchers.

4. Data analysis

4.1. Writing assignments

The two final essays and summaries were rated by three experts, one of whom was an IELTS instructor and two were university professors of EFL. Rubric designed by Yoon and Lee (2010) for academic writing was used to revise and grade them. In Table 2, mechanics, contents, organization, and structure are presented as the subcategories of the test. All the elements were adopted in order to check the progress in students' writing. Specifically, lexical diversity was deemed to be more related to contents, but grammatical accuracy was highly related to structure. Pearson's r was used to examine inter-rater reliability between the three researchers, which was over 0.9 at the 0.01 level of significance for the four final drafts.

Table 2. Scoring rubric for academic writing (adapted from Yoon & Lee, 2010)

Scoring criteria
Mechanics
Periods, commas, and other punctuations are used correctly.
The spelling is accurate.
The title is centered, and capital letters are used correctly.

The first line is indented, and font and size are appropriate.

Content

The content of the paragraph fits the assigned topic.

The paragraph is interesting and easily understandable.

The content is carefully thought out and is related to the topic.

Organization

The paragraph has a topic sentence with a topic and one or more main ideas.

The paragraph has supporting sentences with at least one example.

The paragraph has a concluding sentence.

The paragraph is organized appropriately according to the content.

The paragraph has unity and coherence.

Appropriate transition words are used to show the relationship between sentences.

Structure

Grammar usage is correct.

The sentence structure is appropriate.

Simple, compound, complex, and compound-complex sentences are used correctly.

The paragraph is free of fragments, run-ons, and comma splices.

4.2. Quantitative analysis

As the learners were scored continuously for their performance on academic writing skills in two groups, the numerical data were analyzed using two one-way Multivariate Analysis of Covariance (MANCOVA). In addition, each learner was scored from 1 to 9 for the total academic writing, and a mark from 1 to 9 for the two marked criteria (lexical resources and syntax). An independent-samples t-test was conducted to examine the significance of the methods between the two groups, and, by extension, to check the differences between the two groups' writing proficiency as the dependent variable. To control the impact of the covariate, i.e., the post-tests, on each other as well as the results, one-way MANCOVA was run.

4.2.1. Feedback types

The coding scheme of feedback types by Ellis (2008) was adapted to examine the feedback types mostly used in the assignments. Transcripts of both online and offline sessions were analyzed, and Language Related Episodes (LREs) were categorized as important elements of feedback. An LRE is any part of a dialogue where language learners "talk about the language they are producing, question their language use, or correct themselves or others" (Swain & Lapkin, 1998, p.326). Table 4 shows the grammatical and lexical structures of feedback types:

Table 3. Feedback types of lexis and grammatical structure

Type Code	Description
Direct Correction (DC)	Participants explicitly provide the correct form of lexis or grammatical structure.
Indirect Correction (IC)	Participants indicate lexis or grammatical structure related errors, but does not provide the explicit correction.
Clarification Request (CR)	Participant seeks assistance in understanding the other participant's lexis or grammatical structure related writing
Confirmation Check (CC)	Participant seeks confirmation that he or she understood the other person's lexis or grammatical structure related writing.
Recast (R)	Participants reformulate or expanded an ill-formed or incomplete composition in an unobtrusive way.
Electronic Feedback (EF)	Participants indicate an error and provide a hyperlink to a concordance file that provided examples of correct usage in lexis or grammatical structure.

4.3. Qualitative analysis

This research employed the thematic analysis (Boyatzis, 1988) for exploring the qualitative data. This was to seek out the relevant themes concerning EFL learners' perceptions of the effect of online learner-driven peer feedback on the quality of their IELTS writing. The thematic analysis is a method of qualitative research which is commonly adopted to categorize the prominent themes in a specific area (Charmaz, 1994); it features systematic, yet flexible guidelines in qualitative data analysis, thereby constructing theories that stem out of the given data (Charmaz, 2006). Hence, participants' interview transcriptions were coded (Liu & Sadler, 2000) based on open thematic coding to draw on the most important codes related to their perceptions about online learner-driven. Later on, the derived codes were categorized concerning their themes, and subsequently, the interrelationships among the main variables were scrutinized and categorized according to their content. Following this step, clustering, a bottom-up and reiterative approach, was conducted, which is defined as categorizing and collecting the data which involve the same theme (e.g., labeling).

5. Results

5.1. The quantitative analysis

5.1.1. Academic writing

To explore the impact of learner-driven peer feedback compared to face-to-face peer feedback, two one-way MANCOVA tests were conducted. Table 4 presents the data on the difference between the mean scores of the pre-test in the two groups (controlled and experimental) and it showed that the participants in both groups enjoyed a more or less similar level of knowledge. Post-tests in both groups indicated improvement in the writing skills; therefore, it was required to measure the degree of that improvement in both groups to assess the probable difference of the methods used in each group. Regarding Table 5, the learners' post-test scores in the experimental group were significantly higher compared to the scores in the control group. Overall, after the steps that had been taken (i.e., LDF oriented peer-editing and traditional in-class peer-editing), the learners' writing skills were developed. The independent samples t-test was carried out to explore the probable differences between the two groups after conducting the two instructional procedures.

Table 4. Descriptive statistics of the pre-test scores for both groups

	Groups	Mean	Std. Deviation	N
Writing skill	Ex	3.0	0.858	20
	Co	2.9	0.940	20

Ex: experimental Co: control

The number of students in each group was equal, 20; the mean scores were almost equal with 0.1 scores higher in the experimental group and the scores of standard deviations in both groups were at the same range. Therefore, the level of proficiency for writing was almost the same in both groups before conducting the research.

In the next part of the statistical analysis, a T-test was run to evaluate the impact of the LDF and face-to-face peer editing on the learners' writing scores in both groups.

Table 5. Independent sample test investigating the difference between the post-test in both groups

Writing (Post)	T-test for Equality of Means					95% Confidence Interval of the Difference	
	F	Sig.	t	df	Sig (2tailed)	Lower	Upper
	3.477	.001	-6.086	38.000	.001	-2.165	-1.084

Table 5 above represents the results of the independent sample test for the post-test in

both experimental and control groups. As it is shown, the sig. (Two-tailed) value (P-value) equals .001, which is smaller than 0.05. Therefore, a significant relationship can be observed between the methods applied and the post-test scores of the participants in both groups. It can be confirmed that the methods were positively effective on improving the participants' proficiency in writing skill.

5.1.2. Academic writing skills

Confirming the significant effect of the LDF and traditional face-to-face peer editing on the learners' writing skill in general, it was necessary to measure the differences of each method on the students' academic writing skills and compare the results. Table 6 below illustrates the difference in means of the learners' academic writing skills in the pre-tests and post-tests of the experimental and control groups.

Table 6. Descriptive statistics: mean differences between the pre-tests and post-tests of both groups

	Mean	N	Std. Deviation	Std. Error mean
TA-Ex-pre	3.625	20	1.145	.256
TA-Ex-post	8.500	20	1.076	.240
CC-Ex-pre	3.900	20	1.283	.287
CC-Ex-post	7.525	20	1.371	.306
L-Ex-pre	3.700	20	1.093	.244
L-Ex-post	7.750	20	.952	.213
GA-Ex-pre	3.525	20	1.175	.262
GA-Ex-post	7.525	20	1.117	.249
TA-Co-pre	3.625	20	.901	.201
TA-Co-post	5.125	20	.886	.198
CC-Co-pre	3.050	20	.776	.173
CC-Co-post	4.875	20	.971	.217
L-Co-pre	3.525	20	1.069	.239
L-Co-post	4.100	20	1.075	.128
GA-Co-pre	3.325	20	.591	.132
GA-Co-post	4.500	20	.584	.130

In Table 6 above four subdivisions of the writing skill involving task achievement (TA), coherence and cohesion (CC), lexicon (L), and grammatical accuracy (GA) were compared regarding the pre-test and post-test scores in the experimental and control groups. In all the cases, the means in the post-test scores indicate higher values than in the pre-test scores in both groups. Therefore, both online and face-to-face peer-editing were positively

effective on the learners' development in the writing proficiency, although the effect of LDF is clearly higher. Standard deviation values and standard error means were almost the same for pre-test and post-test scores in both groups, as well.

In the next step, two one-way MANCOVA tests were employed, each for the control and experimental groups, separately. The one-way MANCOVA test was used here because the aim was to compare the level of the impact of the independent variables of the study on its dependent variables. The independent variables of this study involved face-to-face peer-editing and LDF, while the dependent variables here were task achievement (TA), coherence and cohesion (CC), lexicon (L), and grammatical accuracy (GA).

Table 7. MANCOVA for between-subject effects of face-to-face peer-editing on academic writing skills in the control group

Effect	Type Sum of Square	df	Mean Square	F	p
TA	2.900	1	2.900	5.339	.026
CC	3.225	1	3.225	2.640	.023
L	7.225	1	7.225	11.930	.000
GA	5.506	1	5.506	9.203	.001

As Table 7 above shows, the sig. value for the face-to-face peer editing as associated with TA is less than .05 (F= 5.339, p = .026, p < .05). The sig. value related to CC for the participants in the control group is also less than .05 (F= 2.640, p = .023, p < .05). The value for L in the control group is again less than .05 (F= 11.930, p = .000, p < .05). Finally, the sig. value as associated with GA in this group is less than .05 (F= 9.203, p = .001, p < .05). Regarding the overall evaluation of the values in Table 7, the result is statistically significant, and it can be affirmed that the adopted methodology was significantly effective in improving the task achievement, coherence and cohesion, lexicon, and grammatical accuracy in the participants of the control group. In order to measure the level of effect of LDF on the writing skills of the experimental group, another *MANCOVA* test was run. The results can be seen in the following table.

Table 8. MANCOVA for between-subject effects of LDF on academic writing skills in the experimental group

Effect	Type III sum of squares	df	Mean square	F	p
TA	10.506	1	10.506	9.138	.004
CC	11.256	1	5.256	7.480	.041
L	25.600	1	25.600	31.895	.000
GA	24.806	1	24.806	26.230	.000

As evidenced in Table 8, the sig. value for the online peer editing as associated with TA is less than .05 (F = 9.138, p = .004, p < .05). The sig. value related to CC for the participants in the experimental group is also less than .05 (F= 7.480, p = .041, p < .05). The value for L in this group of participants is again less than .05 (F= 31.895, p = .000, p < .05). Finally, the sig. value as associated with GA in this group is less than .05 (F= 26.230, p = .000, p < .05). Based on the overall evaluation of the values in Table 8, it can be concluded that the result is statistically significant, and it can be affirmed that the proposed methodology was significantly effective in improving the task achievement, coherence and cohesion, lexicon, and grammatical accuracy in the participants of the experimental group.

On the other hand, comparing Tables 7 and 8 with regard to the mean values in both Tables, the higher significance of the online peer editing in promoting the participants' writing skill in terms of all the areas of task achievement, coherence and cohesion, lexicon, and grammatical accuracy in the experimental group is affirmed. Therefore, based on the comparative analysis of results the method under study can be claimed to be significantly effective.

Table 9. MANCOVA for between-subject effects of LDF on academic writing skills in the experimental group

Effect	Type III sum of squares	df	Mean square	F	p
TA	10.506	1	10.506	9.138	.004
CC	5.256	1	5.256	4.480	.041
L	25.600	1	25.600	31.895	.000
GA	24.806	1	24.800	26.230	.000

As demonstrated by Table 9, the sig. value for TA, CC, L and GA in the online peer editing is smaller than .05; therefore, the method is statistically significant in improving task achievement, coherence and cohesion, lexicon, and grammatical accuracy in the participants of the groups. Comparing Tables 8 and 9 and with regard to the mean values in each Table, the higher significance of the online peer editing in promoting the participants' writing skill in the experimental group is affirmed.

5.2. The qualitative analysis

After interviewing the learners about their attitudes towards LDF, all the interviews were first transcribed and then analyzed via thematic analysis through which some themes emerged as illustrated in Table 10.

Accordingly, it can be inferred from the interviews that learners had positive attitudes with regards to the learner-oriented form of the feedback they received via Google Docs, and they were satisfied with their improvements in this regard. Table 10 depicts categories of the EFL learners' attitudes towards the impact of learner-driven online peer-editing using Google Docs on academic writing skills.

Table 10. Categories of the EFL learners' attitudes and perceptions towards the impact of online peer-editing using Google Docs on academic writing skills

Categories	Themes	Examples
1. Learners' revision of their writings based on LDF 2. Positive attitudes towards the impact of online learner-driven feedback by peers 3. Partial unsafety toward peer comments 4. The convenience of using Google Docs for learner-driven peer-editing	a. Accuracy of grammar and content b. Macrostructure of writing a. Learning from peers better when specifying what to be checked. b. Giving prominence to the key features that students are not certain about their functions as told to their peers. a) Prioritizing teachers' comments to peers b) Feeling not embarrassed when being checked by peers.	L7: Because without grammar, it is impossible to write meaningful sentences it is good to me to receive feedback on grammar that I ask my peers to comment on based on my teachers' comments on my errors in grammar that I know. L9: without lexical knowledge, it is in vain to attempt to take the IELTS exam, so I take vocabulary as a priority especially the ones that I am not sure about and this way I can ask my classmates to recheck them so that I feel more secure than to be checked by my tutor. L5: after I showed my peer what they should comment on and reading their revisions, I found out how I could use structures and score boosting vocabulary not in a mechanical way and I could learn much faster as I was not a passive member. Moreover, knowing what I needed helped me in terms of time investment. L1: when my peers wrote explanations about my errors, it was easy for me to learn how not to repeat them in the future. For example, discourse markers were not hard for me to use after two weeks of revision with my hints for my peers. L9: as my peers are not C2 students, I sometimes do not feel that I should rely on

		their comments.
		L1: It gives me a better feeling when I have my teacher's comments on my essays and summaries as I know that he is prone to any errors due to lack of enough proficiency.
		L6: comparing my peers and teachers, I should admit that sometimes I do not like my teachers to check my essays as I feel shy if he sees many errors in my essays. Also, it is hard for me to ask my teachers how to check my essays, but my classmates do not put me in stress.
		L4: Google docs help me save time and have constant access to my peers and receive and send my essays from and to them any time I want. Besides, when I do it online, it is easier for me to request them what parts to have checked, I do not know why!
		L8: when my classmate wanted me to check his essay in terms of paragraphing and word count, I spent far less time than what was needed in a typical way, and I thank Google Docs for it.
		L7: through Google Docs, commenting on the areas that I liked my friend to check for me was easier than the ordinary method in the real world, which was due to the features like highlighting and bolding

As visible in Table 10, the participants of the study emphasized the positive effects of LDF using Google Docs. Most importantly, they referred to a sense of safety, constructive effects and ease of functioning in benefiting from peer feedback using Google Docs. However, a certain amount of uncertainty was also evident. The participants were trained in how to revise and comment on their peers' writing in terms of all writing criteria (i.e., task achievement, coherence and cohesion, lexicon, and grammatical range and accuracy), based on the type of feedback they were required to provide.

As they were interviewed, they stated that the required comments were given using LDF with the majority of them concerning accuracy and lexis (range of grammar structures and tenses, and punctuation as well as the type of vocabulary, register, and collocations).

They deemed their grammatical knowledge to be the most important subset to be improved, followed by the lexical competence. The revisions were not mostly about task management and cohesion as they were seldom asked to check them. The learners also requested their peers to check the accuracy of the information, the key features, and the word count of their peers' essays and summaries. In some cases, they were also asked to check the paragraphing, the use of cohesive devices as well as the register in their paragraphs. The students stated that when they chose which areas of their writing to be revised, their awareness would be raised regarding what to avoid in their latter writing samples. Generally, the participants showed positive attitudes towards learner-driven feedback provided by their peers via Google Docs; nevertheless, the ones in charge of revisions occasionally did not follow their partners' requests as they thought what they provided their peers with would be more beneficial to them. In some rare cases, a small number of students were not receptive to the feedback they received owing to a variety of personal reasons.

While they were receptive to their peers' comments and revisions, they mostly preferred their instructors' asynchronous feedback, which, as they were interviewed, was because they thought that those feedbacks were more pertinent to the important parts of academic writing. They stated that the utilization of the learner-driven feedback through Google Docs was very constructive as they could review and analyze their comments and revisions online anytime and anywhere and, secondly, they could better focus on their weaknesses when they were given learner-driven comments.

6. Discussion

This research sought to examine the effects of learner-oriented peer feedback on IELTS learners writing skills and their perceptions towards their progress. According to results, in terms of LDF, the findings of this study are in line with Carless et al. (2011), whose study emphasized the effectiveness of group interaction when providing peer feedback. The current study showed that students performed better when they were involved with the revision, which raised their awareness in terms of grammatical accuracy and choice of words. Using learner-driven feedback, students were able to collaborate more with their peers in editing and providing feedback on writing tasks compared to face-to-face classrooms, as they preferred Google Docs as an out-of-class and online collaborative tool to read, review, comment and

edit the academic writing skills of other members. In line with Ebadi and Rahimi (2017), through LDF-based peer correction in Google Docs, the learners in this study could correctly present the information in their writing by presenting all the relevant information in the four areas of academic writing (i.e. task achievement, coherence and cohesion, lexicon, and grammatical range and accuracy). Besides, similarly to Alshuraidah and Neomy (2019), who referred to LDF as a remedy to psychological barriers to the traditional in-class peer-editing, namely reluctance and shyness, the students in this study claimed that what made them interested and chased away the reluctance in the revision procedure was its learner-centeredness, thereby leading to their significant development in the writing skills. The participants claimed that LDF helped raise their awareness to avoid repeating their errors, which had stemmed from the learner-driven form of feedback. Also, in line with Alshuraidah and Neomy's research (2019), the students reported a high level of engagement in the activity when they were actively involved in the revision, which led to a better and easier assimilation of the input. The findings of this research are also in line with Tudor (1996), who reported that learner-driven feedback increases the level of learners' involvement. Lastly, this research corroborates the reports by Dam (2011), indicating that through learner-driven feedback, learners would allocate more time to their work; thus, their engagement will increase in the process. In the control group, regardless of the number of times, students were given feedback, yet they experienced the same errors more or less in a specific score of time, while in the experiment group, they did show significantly faster improvements, which is attributed to their more engagement in the process of revision based on the interviews. The findings corroborated those of Green (2019), who stated empowering learners to negotiate feedback and participate in the process is at the center of collaborative teacher feedback because it gives learners the ability to behave as active respondents to feedback.

While learners respond to the LDF approach and see it as beneficial for their written language accuracy and academic abilities (Maas, 2017), they raised some questions about the LDF process as they were uncertain about what aspects of their work to inquire about. This implies that for learners who have not yet gained adequate competence in English and the metalanguage to discuss language issues, the method may need to be modified.

It is worth noting that the use of Google Docs as an online educational platform was very important in order to fulfill this aim, as reported by Latifi, Noroozi, Hatami & Biemans (2019), informing that students consider online educational platforms as facilitative in learning. Furthermore, as Phuong & Nguyen (2019) concluded, the majority of students are satisfied with the knowledge they gain in online platforms such as Facebook and Google

Docs; the learners in the face-to-face classroom might not have been mentally relaxed while they were writing their assignments because of some environmental factors, such as the presence of the teacher and other classmates. Therefore, these conditions, which might have affected the learners, could influence the LDF process negatively. Furthermore, the results of this study were in line with those of Yang (2010) reporting that Google Docs assisted learners to share their writing samples with their peers. The shared responsibility of revision between learners and their peers was facilitated when they used Google Docs. Also Sharp (2006) reported that Google Docs allowed editing and facilitated collaborative writing in the language classroom. Similarly, Godwin-Jones (2008) found Google Docs as the best tool for online text editing.

Based on the interviews, it could be argued that while learner-driven feedback was significantly more effective than the typical peer-feedback provided by students, they mostly faced difficulties regarding the lack of time and stress they experienced in the class. However, as presented by Cloete (2014), using online applications and means could lead to saving time while motivating learners and increasing effectiveness. In a similar vein, the findings of this study corroborated Shang (2019) who showed that students' grammatical accuracy could improve significantly when working with online educational platforms. However, some students might feel discouraged from sharing their drafts and ask for feedback as they might feel inferior to their peers after having their writings revised (Rick & Guzdial, 2006). Coyle (2007) states that, in some cases, students perceive it as undesirable to revise their peers' writings, and they do not equally contribute to their peers' essays.

7. Conclusion

The findings of the current study suggest that learners' academic writing skills are more effectively developed if learners take advantage of LDF instead of typical peer-oriented feedback. Moreover, they would be more focused and show a significant improvement in both short and long terms. If LDF is delivered through technology, the success rate could significantly increase. Thus, teachers are recommended to encourage their students to use Google Docs to write and share their drafts with their peers to be edited based on LDF. Consequently, teachers are recommended to inform learners of the increasing importance of learner-driven peer feedback through online applications such as Google Docs, which results in effective learning. Furthermore, EFL teachers are recommended to consider Google Docs affordances as a newly emerging collaboration tool in which students can asynchronously edit their peers' writings. As the LDF provided in Google Docs asynchronously in this study,

learners felt that teacher and peer's synchronous chats would be beneficial in the process. Thus, further research could explore the combination of synchronous and asynchronous LDF to provide learners with access through chat platforms to their teachers and peers when facing challenges in processing the feedback.

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Appendix 1. Writing task topics

1) The use of smartphones in the secondary school

2) Benefits of learning a new language

3) How do different types of products affect the economy and the environment?

4) Implementation of flipped learning in the secondary school

5) Advantages and disadvantages of tourism

6) The problem of global warming

7) The effect of online learning on learners' knowledge

8) The association between colors and feelings

Appendix 2. Interview questions

(1) Did you think that online LDF using Google Docs was helpful to you?

(2) Did you learn anything from your peers when you edited and provided comments on your peers' essays based on LDF?

(3) Were your peers' corrections and comments useful to you when you revised your essay?

(4) What was your reaction to the peer response activity? Did you like it or not? Why? Why not?

(5) What did you focus on when you edit and write your comments?

(6) What types of peer corrections and comments did you prefer?

(7) What is your overall impression about LDF?

DIGITAL VOCABULARY CLASS
IN ENGLISH FOR RAILWAY MECHANICAL TECHNOLOGY

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Abstract

The need to develop online classes in the COVID-19 pandemic era was undeniable. This study aimed to investigate students' learning achievement and their feedback in digital vocabulary class, which utilized Kahoot! and Socrative as drilling practice tools. It was quasi-experimental research on first-year students of the Railway Mechanical Technology program in Indonesian Railway Polytechnic (N=48). The primary data was gathered from vocabulary pretest and posttest. Then, the test results were analyzed using paired t-test, Pearson r correlation, and Cohen d coefficient. The supporting data were collected by giving a questionnaire to know students' feedbacks. The results revealed that the digital class effectively improved students' learning vocabulary achievement in English for railway mechanical technology. The questionnaire results showed positive feedback from the students in learning through digital platforms.

Keywords: English for Railway Mechanical Technology; Kahoot!; Socrative; Teaching Vocabulary

1. Introduction

The educational climate has changed enormously since the advent of emerging technology and its implementation in education has been a prerequisite in the modern school system (Shariq, 2020). Nowadays, Information and Communication Technology (ICT) is considered a potential tool that provides enhanced educational opportunities. Its relevance in the teaching and learning process in general is crucial, and its application in the teaching and learning of English in particular is imperative. It can equip learners with digital-age literacy, effective communication, and high productivity. Alkamel and Chouthaiwale (2018) state that ICT can enhance teaching and learning through its dynamic, interactive, and engaging content and provide real opportunities for individualized instruction. By integrating ICT tools, learners can increase their

competencies and communication opportunities, which are regarded as central to learning a language (Stickler et al., 2020). Furthermore, many studies have shown that using ICT tools positively affects behavior and motivation, enabling learners to learn more autonomously (Srisermbhok, 2020; Waluyo, 2020). Teachers can also manage teaching based on the students' proficiency levels and the different purposes of each classroom.

The study of vocabulary has always occupied a central place in teaching and learning activities as people can express their thoughts and opinions about anything. Some empirical studies proved that many teachers face problems in teaching vocabulary (Sari & Wardani, 2019; Suardi & Sakti, 2019). Alkamel and Chouthaiwale (2018) argued that ICT provided opportunities for teachers to develop their teaching strategies in language classrooms so that instructions became more varied. Specifically, the use of ICT in the English language classroom could also improve and optimize students' language acquisition, motivate them to continue their learning, and stimulate their creativity (Azmi, 2017). By integrating ICT in vocabulary instruction, teachers could implement appropriate strategies to create an engaging language classroom that benefited them in their learning process.

During Covid-19, all classes had to go online so that ICT integration in language learning is undeniable. Indonesian Railway Polytechnic also had to be responsive in this current situation so that the students' English performance can be maintained well. The first step was by transforming the teaching and learning system from the old-fashioned model to the digital era by integrating ICT. Mallick et al. (2020) state that integrating ICT tools and traditional teaching methods is considered a key promoter of creating an effective learning atmosphere. Furthermore, the need for utilizing ICT tools is getting bigger and more obligatory because the teaching and learning process must move from face-to-face to face-to-screen. A previous study conducted in Indonesian Railway Polytechnic showed that ICT tools helped students enhance their learning outcomes and received positive feedback from the students in the English intensive program (Pratiwi et al., 2021).

ICT tools for language learning purposes have been available, yet, there is a lack of variety for using them in class, especially in vocabulary instruction (Yoon, 2017). Some studies described that implementing ICT platforms on Student Response System (SRS) was reported positive in terms of students' participation, engagement, and outcomes (Waluyo, 2020). There are several SRS platforms, such as Google Forms, Kahoot! Socrative, Quizizz, Quizlet, etc. In this study, two SRS platforms - Kahoot! and Socrative - were chosen due to students' familiarity and expected learning benefits.

Based on the background explained above, the main objective of this study is to investigate the implementation of digital English classes in teaching vocabulary for the Railway Mechanical Technology program. The present study, hence, addresses the following research questions:

1. What are the students' learning achievements in digital English vocabulary class?
2. How do the students respond to learning in digital vocabulary classes?

2. Literature review

2.1. Digital Vocabulary Class

Digital means connected to the use of computer technology, especially the Internet (Hornby, 2000), which refers to the implementation of ICT. The term ICT is explained as the varied collection of technological gears and resources used to communicate broadly (Pathak & Manoj, 2018). The Scottish Government and APS Group Scotland (2016) describe some benefits of integrating ICT in the language classroom: creating seamless and unrestricted learning, providing more enjoyment of learning, being cost-effective, making learning easier by creating flexibility and giving the ability to remotely access the classroom on the students own time, keeping learners engaged and becoming a self-assessment tool. Moreover, ICT integration also enhances teaching and learning as professional resources for teachers and provides opportunities for students to communicate more effectively (Henry & Lamb, 2020).

The use of a computer by teachers in the classroom has also brought about a change in the teacher's role, moving him or her from being a lecturer to being a facilitator of learning (Azmi, 2017). Dalton and Grisham (2011) proposed ten strategies on how to teach and learn vocabulary through the use of technology:

1. Learn from the visual displays of words and their correlations to the text
2. Take a digital vocabulary field trip
3. Connect fun and learning with online vocabulary games
4. Have students use the media to express vocabulary knowledge
5. Take advantage of online word reference tools that are also teaching tools
6. Support reading and word learning with just-in-time vocabulary reference support
7. Use language translators to provide just-in-time help for ELLs
8. Increase reading volume by reading digital text
9. Increase reading volume by listening to digital text with a text-to-speech tool and audiobooks

10. Combine vocabulary learning and social service

Digital vocabulary class can utilize SRS applications in its implementation and SRS provide an immediate and real-time assessment by enabling the teacher to respond and discuss with the students immediately (Liu et al., 2018). In several EFL classrooms worldwide, SRS reported positive to improve students' ability, motivate and engage students in class. In survey research of Japanese EFL university classrooms (Mork, 2014), it was reported that Socrative benefited students and teachers as it improved the former's participation and motivation, initiated discussion, facilitated group interaction and peer assessment, and increased learning. For teachers, SRS presented a simple way to gauge students' understanding, simplified grading, and conducted assessment efficiently. In that study, SRS was not only media that influenced students' learning directly, but also the method associated with the technology employed by teachers that did.

Another study in the Thai university context demonstrated that comprehensive integration of ICT in general English courses was useful in advancing learners' achievement and realizing the designed learning outcomes (Waluyo, 2020). Various ICT tools such as Socrative, Kahoot!, Quizizz, Writeabout, and Google Form were involved in conducting formative and summative assessment, homework activity, listening practice, in and outside class practice, and writing activity. The results of the study indicated significant differences in students' scores in total and across skills in general English courses. These results were supported by research in the Indonesian EFL university context that proved how implementing SRS in an English Intensive Program effectively improved students' learning outcomes (Pratiwi et al., 2021).

Nonetheless, an experimental study using SRS in EFL classrooms showed SRS was not effective in improving students' achievement. Still, it increased students' learning motivation and self-efficacy in learning English and improved their participation and engagement in-class activities (Liu et al., 2018). Students also had positive attitudes and expressed positive feedback on ICT implementation in the language classroom in the Indonesian context, in which students could accelerate learning using SRS tools (Ubaedillah & Pratiwi, 2021). A study in Hongkong university class also described that SRS increased students' engagement even in a large lecture hall (Wong, 2016).

2.2. Kahoot!

Aimed at connecting fun and learning with online vocabulary games, Kahoot! turns out to be more useful, fun, and engaging (Iaremenko, 2017). Kahoot! possesses its unique features of typical gaming and teaching models that are interactive. Instead of the traditional method of

reading textbooks and notes, users can be encouraged to learn, play and socialize in classrooms, thus making the learning process more active (Graham, 2015). The features also enable teachers to analyze and assess if students truly understand the learning material covered through the use of Kahoot! quizzes and surveys (Kaur & Naderajan, 2019). Meanwhile, since it combines cooperation and interaction with fun, successful learning becomes possible (Tivaraju et al., 2017).

Kahoot! has four types of games: quiz, jumble, discussion, and survey. In quiz type, teachers can introduce, review, and reward, while in jumble type, they can create a jumble-word game. The Discussion type can be used to initiate and facilitate debate. If only they want to gather students' opinions, they can use the Survey type. Many materials are provided there so that instructors can simply search for the game they need and play it in class. However, if they have specific materials such as vocabulary related to the topic, they have to create their own game for the students. To practice vocabulary in class, it is suggested to use the Quiz type because pictures, videos, or texts can be shown during the learning game. While using vocabulary in context, the Jumble type is recommended to create proper sentences by arranging the jumbled words.

In a quasi-experimental study conducted in vocabulary class of an EFL classroom setting, the results showed that Kahoot! improved students' vocabulary acquisition and increased motivation (Medina & Hurtado, 2017). This was supported by a survey conducted in general English class that reported students had a positive experience when they had a lesson that integrated Kahoot! (Kaur & Naderajan, 2019). This application enabled the students to engage and actively participated in the language learning process.

2.3. Socrative

Regarding media to express vocabulary knowledge, Awedh et al. (2014) studied the suitability of ICT tools employing Socrative Student Response System (SRS) in facilitating active learning in the classroom. It was confirmed that there was positive impact of Socrative on student learning performance, especially on enhancing students' awareness of their level of knowledge and clarifying the understanding of concepts. Furthermore, Kaya and Balta (2016) explained that as a kind of Information and Communication Technology, Socrative had many benefits that have proven this technology was useful in education. It not only empowered teachers to engage their classrooms but also motivated students to more effective learning in the language classroom.

Socrative is a classroom application for fun and effective classroom engagement. It enhances students' performance as students improved their learning experience (Dakka, 2015). Teachers have several choices of activity types, such as launching a quiz, receiving exit tickets,

or asking a quick question for instant student feedback. For creating a quiz, the teachers should have a Socrative account; they could use their Google account or create an account by filling up some data. Next, they have to download the Socrative template from the website to develop quizzes offline or creating online quizzes through this platform. Furthermore, this platform has three kinds of quick questions which could be adjusted according to teachers' or students' needs: multiple-choice questions, true/false questions, and short answer questions. Specifically, those three models could be combined into one quiz.

2.4. English for Railway Mechanical Technology

English for Railway Mechanical Technology belongs to English for Specific Purpose (ESP), which means that learning a language is based on learners' need of their disciplines. As Donesch-Jezo (2012) states, ESP focuses on the language used in a real professional context rather than teaching grammar and vocabulary unrelated to the students' mainstream subjects. In this case, the learners need to acquire specific vocabulary used in their discipline to acknowledge more in English competence. According to Dudley-Evans and St. John (1998), there are several characteristics of ESP:

a. ESP is defined to meet the specific needs of the learners.
b. ESP makes use of the underlying methodology and activities of the discipline it serves.
c. ESP is centered on the language appropriate to these activities in terms of grammar, lexis, register, study skills, discourse, and genre.

Besides, Musikhin (2016) studied ESP that focused on acquiring professional expertise integrates disciplinary knowledge and professional practice in complex and dynamic manipulation of different social situations within which most specialized communication forms occurred. ESP has always been concerned with enhancing students' ability to communicate effectively in their work and study (Enesi & Strati, 2019). To acquire the desired skill in a specific field, students have to master specialized vocabulary as each field has particular terminology. They could often not connect what they have learned and how that knowledge would be used (Medriano & Bautista, 2020).

Teaching ESP in the digital world should be based on the understanding that today's learners are constantly connected via a number of different digital devices (Kirovska-Simjanoska, 2020). Survey research among ESP teachers and students in the Indonesian context suggests that the most effective aspect of digital ESP class is the flexibility to access and engage in academic tasks, which allows learners to use the material at their own pace so that they could learn creatively from several sources (Mulyadi et al., 2020). The resources for ESP should be

from language learning applications which are explicitly designed as instructional applications with language learning in mind and could be used for developing skills in language learning (Šimonová, 2015). Therefore, those applications provide learners with a great way to connect learning with real-life experiences.

Furthermore, digital-assisted ESP has to address students' needs to immerse themselves in authentic learning environments. In large classes, this enables the students to demonstrate skills and competencies that would have gone unnoticed. However, some empirical studies have shown that students' learning outcomes were similar to those from traditional classroom settings (Kirovska-Simjanoska, 2020; Mulyadi et al., 2020). Thus, digitally-assisted ESP course during the Covid-19 pandemic had to be crossed with the student's needs and learning goals to create a personalized and effective learning environment.

3. Method

3.1. Participants and design

The study involved first-year Railway Mechanical Technology students at Indonesian Railway Polytechnic in the academic year 2019/2020. The participants consisted of 48 students at the age of 18-19. There were 40 male students and 8 female students in the group. The study was quasi-experimental, one group pretest-posttest research design in which a group's results were measured and observed before and after the treatment was given (Creswell, 2018). Pre and posttest were used to investigate the learning achievement differences. After doing the pretest, the students were given a vocabulary list that consisted of 100 number words related to railway mechanical technology and their definition (see Appendix).

Treatments were given four times which lasted 1 hour/meeting. This was done once a week. Every treatment used 25 words in the vocabulary list, which was modified into a set of questions in the multiple-choice format: match the words with the pictures, match the words with the definitions, complete the gaps (synonym and antonym), and choose the correct word. Each type consisted of 5 numbers so that in each treatment, the students were drilled to do 25 numbers altogether. The time given to answer the questions was 25 minutes, then class discussion lasted for 35 minutes. After finishing the treatments, a post-test was arranged, and questionnaires were given to determine students' feedback.

Table 1. Research design

Pretest	Treatments	Posttest
O	X	O
	4 times	

Table 2. Treatment schedule

Meeting	Platform Used	Vocabulary List
1	Kahoot!	no 1 - 25
2	Socrative	no 26 - 50
3	Socrative	no 51 - 75
4	Kahoot!	no 76 - 100

3.2. Data collection and instruments

Test is an important process to measure learning achievement (Rahmawati et al., 2019). Accordingly, to answer the first research question, a pretest and posttest were arranged, with 40 multiple-choice items in each test. The multiple-choice format was chosen because it is highly correlated to active vocabulary knowledge and easy to construct and mark (McLean et al., 2020). There were four multiple choice-vocabulary test tasks which proved to be effective as an indicator of testing vocabulary knowledge: synonyms, antonyms, meaning and picture identification (Bowles & Salthouse, 2008). Each test task consisted of 10 questions each. Furthermore, test instruments should be valid and reliable (Lebagi et al., 2014). The test validity was calculated using content Lawshe's method: CVR (Content Validity Ratio). This was calculated in the following way (Taherdoost, 2016):

$$CVR = \frac{ne - (\frac{N}{2})}{\frac{N}{2}}$$

In which ne is the number of panels indicating "essential" and N is the total number of panel members. In this research, ten panelists were used to prove the validity of the test.

Table 2. Minimum Value of CVR

No of Panelist	Minimum Value
5 - 7	.99
8	.75
9	.78
10	.62
20	.42
25	.37

Reliability relates to the extent to which a measurement of a phenomenon provides a stable and consistent result. This is achieved through internal consistency reliability by calculating the alpha coefficient (Cronbach Alpha). The calculation formula of α is as follows (Mondal & Mondal, 2017):

$$\alpha = \left(\frac{k}{(k-1)}\right) \text{ x } \left(1 - \left(\sum s_i^2\right) / s_t^2\right)$$

In which k is the number of items in the test; S_i is SD of i item; and S_t is SD of sum score.

Table 3. Reliability definition of Alpha coefficient

Alpha coefficient	Internal Consistency Reliability
$\alpha \geq 0.9$	Excellent
$0.9 > \alpha \geq 0.8$	Good
$0.8 > \alpha \geq 0.7$	Acceptable
$0.7 > \alpha \geq 0.6$	Questionable
$0.6 > \alpha \geq 0.5$	Poor
$0.5 > \alpha$	Unacceptable

There were 50 multiple-choice items checked on reliability and validity. After calculating the CVR, 40 numbers were obtained as a valid instrument as they met the minimum value of 0.62. In calculating the Cronbach alpha coefficient, 42 numbers had a value of ≥0.8, indicated that these questions were suitable for use as research instruments. Invalid items, in other words, were also unreliable items. As a result, only 40 valid and reliable items could be used as instruments.

A set of questionnaires was given to the students to gather their perceptions on the digital vocabulary learning platform. The questionnaire was developed in two kinds - closed-ended and open-ended questionnaire. A closed-ended questionnaire on a Likert scale was used to sort the media based on students' preference. An open-ended questionnaire was given to collect in-depth information about students' feedback in implementing digital vocabulary learning platforms.

3.3. Data analysis

This research dealt with two variables: pretest and post-test scores, which were compared and correlated to determine the effectiveness of digital vocabulary platforms. The data were analyzed using paired t-test, Pearson r correlation, and Cohen effect size in SPSS 16.0 (Cohen et al., 2017;

Connolly, 2007; Muijs, 2010; York, 2016). Paired t-test could be calculated using the formula below:

$$t = \frac{(\sum D)/N}{\sqrt{\dfrac{\sum D^2 - (\dfrac{(\sum D)^2}{N})}{(N-1)(N)}}}$$

In which, $\sum D$ is the sum of the differences, and N is the total number of samples.

Pearson correlation coefficient was calculated using this formula:

$$r = \frac{\sum_{i-1}^{n} (x_1 - \bar{x})(y_1 - \bar{y})}{(n-1)SD_x SD_y}$$

where x is the pretest score, y is the posttest score; $\bar{x}$ and $\bar{y}$ are the mean of pretest and posttest; while SD_x and SD_y are the standard deviation of pretest and posttest scores. Furthermore, the results could be interpreted as follows:

Table 4. Effect size of Pearson correlation coefficient

Pearson coefficient	Pearson correlation interpretation
$1.0 \leq r \geq 0.8$	Very strong
$0.8 > r \geq 0.5$	Strong
$0.5 > r \geq 0.3$	Moderate
$0.3 > r \geq 0.1$	Modest
$0.1 > r \geq 0.0$	Weak

Pearson r coefficients vary between -1 and +1, with +1 indicating a perfect positive relationship and -1 a perfect negative relationship, and 0 = no relationship (Muijs, 2010).

Cohen effect size was denoted by:

$$d = \frac{\bar{x_1} - \bar{x_2}}{s}$$

where $\bar{x_1}$ is mean of posttest result and $\bar{x_2}$ is mean of pretest result, while s is the standard deviation. Moreover, the results could be interpreted as follows:

Table 5. Effect size of Cohen correlation coefficient

Cohen coefficient	Cohen correlation interpretation
$d > 0.8$	Strong
$0.8 \geq d > 0.5$	Moderate
$0.5 \geq d > 0.2$	Modest
$0.2 > d > 0.0$	Weak

A closed-ended questionnaire was analyzed by calculating each platform's total scores, then reported in descriptive analysis. Results of the open-ended questionnaire were grouped based on students' opinions, then calculated in a simple statistic. Those results could reveal students' perception of digital vocabulary learning tools that supported the primary data of test analysis.

3.4. Test results

Comparison of pretest and posttest was analyzed using paired t-test on SPSS 16.0. Table 6 indicated that there was significance difference in posttest (mean = 16.5; SD = 4.55) and pretest (mean = 9.89; SD = 2.69).

Table 6. Paired sample statistics

	Mean	N	Std Deviation	Std Error Mean
Posttest	16.5000	48	4.55230	.65707
Pretest	9.8958	48	2.69151	.38849

The result of the paired t-test was shown in table 7, in which t (47) = 12.54 with p = 0.

Table 7. Paired sample test

| | Paired Differences | | | | | | | |
	Mean	Std Deviation	Std Error Mean	95% Confidence Interval of the Difference		t	df	Sig (2-tailed)
				Lower	Upper			
Posttest-Pretest	6.60417	3.64802	.52655	5.54489	7.66344	12.542	47	.000

Pearson correlation coefficient was calculated to find out the correlation between posttest and pretest. Table 8 showed that there was correlation between posttest and pretest with r = 0.598; p (2-tailed) = 0; and N = 48.

Table 8. Posttest and pretest correlations

		Posttest	Pretest
Posttest	Pearson Correlation	1	.598
	Sig (2-tailed)		.000
	N	48	48
Pretest	Pearson Correlation	.598	1
	Sig (2-tailed)	.000	
	N	48	48

Meanwhile, the Cohen d coefficient was calculated to know the effect size of the treatment. From the calculation, the d obtained was 1.81.

3.5. Questionnaire results

The students completed the questionnaire on using Kahoot! and Socrative for learning vocabulary that indicated their perception. The results were listed in Table 7. As evidenced in this table, 34 students stated Kahoot! was very recommended and 27 students chose Socrative, while for the option of recommended, 13 students ticked Kahoot! and 19 students chose Socrative. 3 students ticked undecided - 1 chose Kahoot! and two students chose Socrative.

Table 9 Closed-ended Questionnaire Results

	Very Recommended	Recommended	Undecided	Not Recommended	Not Recommended at All
Kahoot!	34 70.83 %	13 27.08 %	1 2.08 %	0	0
Socrative	27 56.25 %	19 39.58 %	2 4.17 %	0	0

In the open-ended questionnaire, students wrote their opinions regarding their experiences using Kahoot! and Socrative digital platforms in class. Their answers ranged from interesting, easy to be used, simple, access easily, unique, understandable, enjoyable, fun, and consumed data connection. These reflected the advantages and disadvantages of using digital platforms in learning vocabulary.

4. Discussion

Learning vocabulary needs to be enhanced as it is crucial and critical to be boosted as lexical knowledge is central to communicative competence (Schmitt, 2008). This skill becomes a strong predictor of reading comprehension (Mustafa et al., 2019), learners' listening skills, and overall skills (Ebadi & Bashiri, 2018). It means that the lack of vocabulary knowledge would affect other English skills, so teachers have to be aware of that and focus on vocabulary knowledge (Lessard-Clouston, 2013). There are three aspects teachers need to cater for while teaching vocabulary: meaning, form, and use (Nation, 2007). In this current study, the vocabulary list given to students consisted of three aspects - meaning (definition), form (written - part of speech), and language in context. The learning process was carried through synonyms, antonyms, and filling the gap of

the blank sentences. There were 100 words divided into four parts (25 words/treatment) to provide sufficient vocabulary knowledge for the students considering that rich vocabulary was essential for the use of foreign languages (Alqahtani, 2015).

Before discussing each word with the students, the teacher drilled them through digital applications. In the previous study, the use of technology indicated successfully overcoming the problem of complex mix of factors regarding the teaching and learning process, such as learning habits, learning environment, diversity in class, centralized mechanism, etc. (Santosa et al., 2020). However, technology-based learning would only succeed if learners favor technology that was used (Jalili et al., 2020). In this current study, the drilling practice and discussion implementing digital platform ran smoothly, although this was the first time for the students to use these applications. After the drilling finished, a discussion about the words in terms of the meaning, form and language use in context was held. The practice took place once four times once a week.

Once the practices were finished, a posttest was carried out to determine the effectiveness of the treatment. The pretest and posttest results revealed that technology was effective in improving students' English vocabulary achievement, which was evidenced in the analysis of paired t-test, Pearson r coefficient, and Cohen d coefficient. The paired t-test implied that the digital platform had a significance difference from pre- to post-test (6.60), indicated by t = 12.54 and p = 0. The Pearson correlation coefficient resulted in 0.598 that pointed out these digital applications were strongly effective in learning vocabulary. The Cohen d coefficient also indicated a strong effect for students because the result was > 0.8. In other words, the purpose of technological advancement to help people performs their activities more efficiently was hinted at since these three analyses show a positive line (Hidayati, 2016).

During the Covid-19 pandemic, almost all teaching and learning processes had to be carried out online. Thus, educators were required to maintain themselves to integrate all ICT platforms to bridge the distance of the teaching and learning process. Many studies highlighted the importance of applying technology in English teaching classroom activities (Ebadi & Bashiri, 2018; Sajad et al., 2019). Digital tools such as Kahoot! and Socrative were some alternatives to be applied in the classroom, especially in vocabulary practice, to drill the students to achieve learning goals. Current research revealed that these platforms were effective and had a strong effect on improving students' vocabulary achievement.

Kahoot! and Socrative are easy to be used for teachers because of their practicality. Kahoot! brought many beneficial values to both teachers and students (Kaur & Naderajan, 2019). Another research that faculty and students from various disciplines view the incorporation of

online SRS (student response system), such as Socrative, to be very useful for the teaching process because it can encourage students' active learning, especially in the English language classroom context (Shaban, 2017). In this study, the results of the students' questionnaire also supported these findings in which 34 out of 48 students (70.83%) stated that Kahoot! was highly recommended. This revealed that this application fitted the students' needs during online learning. The application was recommended by 13 students (27.08%) and there were no students who did not recommend it at all. Although there was 1 student (2.08%) who chose 'undecided' about this application, it was not too prominent as it was only 2.08 %. In short, the students enjoyed learning English through Kahoot! application that also mentioned in other research (Sabandar et al., 2018). Thus, it could be concluded that the Kahoot! and Socrative applications were recommended for learning English vocabulary.

The questionnaire result of students' feedback in using Socrative did not have a big gap than Kahoot!. More than half of the sample - 56.25% (27 students) chose 'very recommended' for Socrative implementation in vocabulary class. 39.58% (19 students) of the sample recommended this application. However, two students ticked 'undecided' about implementing it. Those meant that the students recommend Socrative to help them learn vocabulary. In other words, Socrative was the right tool that could help to improve users' engagement (Kaya & Balta, 2016). The open-ended questionnaire data supported that those two applications were easy to be used, unique, enjoyable, engaging, and fascinating. This finding confirmed Mahayanti et al. (2020)'s study that argued that gamification implementation attracted students' attention. Some students stated that they needed to adapt and learn to use them because they had never used them before. Besides, some others also found difficulties related to the internet connection at their place, which sometimes was unstable. This internet problem caused their work progress could not be saved, and they even needed to repeat the vocabulary practice or test.

5. Conclusion

The focus of this study is investigating learners' achievement in the digital vocabulary class and finding out their feedback in implementing the digital platform - Kahoot! and Socrative. This issue is essential during the Covid-19 pandemic considering the teaching and learning process had to be done online. For Railway Mechanical Technology teachers and students, this was their first experience. Both parties needed to adapt to new teaching and learning systems and models to maintain learners' needs and achievement. The results have revealed that Kahoot! and Socrative effectively upgraded learners' achievement by drilling them in such a learning procedure. The learners' feedback based on the research findings was positive in which almost

all samples recommending the applications to be used in vocabulary class. These findings supported the idea that Kahoot! and Socrative as online students response system (SRS) facilitated interactive teaching in English language classes so that it could be imitated and applied in other institutions to engage autonomous and interactive learning (Kaya & Balta, 2016; Sabandar et al., 2018; Tivaraju et al., 2017; Wang & Tahir, 2020; Zarzycka-Piskorz, 2016).

This study has certain limitations as it uses a quasi-experimental method: one group pretest and posttest design. There need to be some improvements which may result in different findings when carried out on true-experimental method: two groups pretest and posttest design. This cannot be done in two-group experimental research or action research because the university regulation stated that students must receive equal treatments for all classes on online teaching and learning. Future research may also be possible to apply more statistical analytical methods, which will give more insight into the results. Nonetheless, both research questions were successfully addressed by the statistical analysis presented in the previous section of this study.

Acknowledgment

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Appendix. Vocabulary List

No	Word	Part of Speech	Meaning
1	Adhesion	N	The ability to stick
2	Axle	N	A bar connected to the center of a circular object such as a wheel that allows or causes it to turn.
3	Ballast	N	The small stones on which railways and roads are made.
4	Bearing	N	A part of a machine that supports another part that turns around
5	Bogie	N	One of the separate parts in which passengers sit.
6	Boiler	N	The part of a steam engine where water is heated to provide power.
7	Bolt	N	A metal bar on a door or window that slides across to lock it closed.
8	Brake	V	To make a vehicle go slower or stop.
9	Buffer	V	To provide protection against harm.
10	Cabin	N	The area where passengers sit.
11	Carriage	N	One of the separate parts in which passengers sit.
12	Coach	N	One of the separate parts in which passengers sit.
13	Compressor	N	A part of a machine that presses gas or air into less space.
14	Conductor	N	A railway official who travels on and is responsible for a train.
15	Coupling	N	A device that joins two things together.
16	Cylinder	N	The tube-shaped device inside which the part of the engine that causes the fuel to produce power moves up and down.
17	Diesel	N	Any vehicle, especially a train that has engine
18	Drill	V	To make a hole in something using a special tool.
19	Electrical	Adj	Related to electricity.
20	Engine	N	A machine that uses the energy from liquid fuel to produce movement.
21	Jack	N	An equipment that can be opened slowly under a heavy object to raise it off.
22	Lever	V	To move a bar or handle around a fixed point.
23	Locomotive	N	The engine of a train.
24	Machine	N	A piece of equipment with several moving parts that uses power to do a particular type of work.
25	Machinist	N	A person whose job is operating a machine.
26	Mold	V	To shape something into a particular form.
27	Monorail	N	A railway system that has a single rail.

28	Panel	N	A board that has controls and other devices on it for operating a large machine.
29	Piston	N	A short of metal that moves up and down inside a cylinder in an engine to press the fuel into a small space and send the power to the wheels.
30	Platform	N	A long flat raises structure at a railway station, where people get on/off trains.
31	Radiator	N	A device that sends out heat, as part of a heating or cooling system.
32	Rail	N	One of the two metal bars attached to the ground on which trains travel.
33	Railroad	N	The metal tracks on which trains run.
34	Railway	N	The metal tracks on which trains run.
35	Reservoir	N	A large supply of something.
36	Rolling stock	N	The engines and carriages that are used on a railway.
37	Shunt	V	To move a train onto a different track in using a special railway engine designed for this purpose.
38	Siding	N	A short railway track connected to a main track.
39	Signal	N	Equipment on the side of a railway that tells drivers to stop, continue or go more slowly.
40	Station	N	A building where trains stop for people to get on or off.
41	Suspension	N	Equipment attached to the wheels of a vehicle that reduces the uncomfortable effect of going over road surface that are not even.
42	Terminal	N	The area at a station that is used by passengers leaving or arriving by train.
43	Track	N	The pair of long metal bars fixed on the ground at an equal distance from each another along which train travels.
44	Train	N	A railway engine connected to carriages.
45	Tube	N	A long cylinder used for moving.
46	Tunnel	N	A long passage under or through the ground.
47	Turbine	N	A type of machine through which liquid or gas flows and turns a special wheel with blades in order to produce power.
48	Wagon	N	A large wheeled container for transporting goods that is pulled by a train.
49	Wesel	N	A container used to hold liquids.
50	Wire	N	A piece of thin metal thread with a layer of plastic around it used for carrying electric current.
51	Aisle	N	A long, narrow space between rows of seats.
52	Alternator	N	A device that produces AC electricity.

53	Barrier	N	A gate in some railway stations through which you must go to get on a train.
54	Blower	N	A device that produces a current of air.
55	Bolster	V	To support or improve something or make it stronger.
56	Camshaft	N	A device that causes the valves of an engine to open or close at the correct time.
57	Chain	N	A length of rings usually made of metal that are connected and used for fastening, connecting or supporting.
58	Cohesive	Adj	United and working together effectively.
59	Compression ratio	N	The amount of pressing something into a smaller space.
60	Conduction	N	The process by which heat or electricity goes through a substance.
61	Corridor	N	A long passage in a building or train.
62	Counter	Adv	In a way that opposed something.
63	Crane	N	A tall metal structure with a long horizontal part, used for lifting and moving heavy objects.
64	Deformation	N	The action of spoiling the usual and true shape of something.
65	Dispatcher	N	A person who is responsible for sending out people or vehicle to where they are needed.
66	Drag	V	To move something by pulling it along a surface.
67	Dynamo	N	A device that changes energy of movement into electrical energy.
68	Emplacement	N	A position specially prepared for large pieces of equipment.
69	Fuel	N	A substance that is used to provide heat or power.
70	Fuse	N	A small safety part in an electrical device or piece of machinery that causes it to stop working if the electricity current is too high.
71	Gauge	V	To calculate an amount using a measuring device.
72	Gear	N	A device that controls how much power from an engine goes to the moving parts of a machine.
73	Generator	N	A machine that produces electrical power.
74	Guard	N	A person or group of people whose job is to protect a person, place or thing from danger or attack.
75	Headlight	N	A large, powerful light at the front of a vehicle.
76	Horn	N	A device on a vehicle that is used to make a loud noise as a warning or signal to other people.
77	Hydraulic	Adj	Operated by or involving the pressure of water.
78	Inertia	N	The physical force that keeps something in the same position.
79	Inject	V	To put new energy.
80	Interlocking	Adj	Firmly joined together.
81	Junction	N	A place where roads or railways come together.
82	Lavatory	N	Toilet

83	Motor	N	A device that changes electricity or fuel into movement and makes a machine work.
84	Pneumatic	Adj	Operated by air pressure.
85	Pressure	N	The force that a liquid or gas produces when it presses against an area.
86	Radiation	N	A form of energy that comes from a nuclear reaction.
87	Rail anchor	N	A heavy metal object to prevent the train move away.
88	Rocker switch	N	An electrical switch that you press on one side to turn a device on and the other to turn it off.
89	Screw	N	A thin, pointed piece of metal with a raised edge twisting round along its length and a flat top with a cut in it.
90	Screwdriver	N	A tool for turning screws.
91	Spin	V	To turn around and around.
92	Spring	V	A piece of curved or bent metal that can be pressed into a smaller space but then returns to its usual shape.
93	Subway	N	A railway system in which electric trains travel through tunnels below ground.
94	Thermodynamics	N	The area of physics connected with the action of heat and other types of energy.
95	Timetable	N	A detailed plan showing when events will happen.
96	Transmission	N	The machinery that brings the power produced by the engine to the wheels of a vehicle.
97	Trimmer	N	A device used for making something tidier by cutting a small amount off it.
98	Valve	N	A device that opens and closes to control the flow of liquid or gases.
99	Workshop	N	A room where things are made or repaired using machined or tools.
100	Wrench	N	A tool for holding and turning objects, especially one that can be made larger or smaller to hold different sized objects.

USING *POSTERMYWALL* TO PRACTICE COMMUNICATION
IN A FOREIGN LANGUAGE CLASSROOM

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Abstract

This paper introduces *Postermywall* and presents three lesson plans that integrate the technology based on the relevant literature and the International Society for Technology in Education standards to support English language learning and practice students' communication and creativity. Specifically designed for an English as a Foreign Language writing and speaking class, the lesson plans also hope to interest language teachers and educational practitioners looking for user-friendly technology to integrate into their lessons and ways to engage students in technology-based language learning activities. Recommendations to optimize the lesson plans are presented.

Keywords: Postermywall; technology; foreign language classroom; communication; creativity

1. Introduction

Creativity and communication have become core skills to possess in the twenty-first century; those skills require students to be ready for global communication, think creatively, and collaborate with their peers (Davila, 2016; Mali, 2018; Nazikian & Park, 2016). A web-based technology called *Postermywall* (https://www.postermywall.com/) might have some potential to help university students practice those core skills. In response, this paper would like to introduce *Postermywall* and present three lesson plans that integrate the technology specifically into an English as a Foreign Language (EFL) speaking and writing class. The lesson plans should interest EFL teachers and educational practitioners who are looking for easy-to-use technology, hoping to learn various types of technology, or still feeling pessimistic and less confident about integrating technology into their lessons, as reported in the literature (see Deerajviset & Harbon, 2014; Silviyanti & Yusuf, 2015). The lesson plans might also add to EFL teachers' knowledge about practical ways to engage students in technology-based learning activities and practice students' creativity and communication skills.

In the following sections, the paper will first review previous studies of teachers' experiences and voices when using technology to provide more justifications about the need to write this paper. It will then briefly introduce *Postermywall* and review theoretical foundations for the lesson plans to support students' creativity and communication in an EFL writing and speaking class. The paper ends with practical recommendations to maximize the language learning activities and technology presented in the lesson plans.

2. Background

Researchers have reported that teachers rarely integrate various technologies into teaching and learning. A study of 783 educators in teacher education institutions from north and central Vietnam showed that "57.6% of the participants never or rarely used subject-specific software for integration into lesson practice" (Peeraer & Petegem, 2011, p. 979). Another large-scale study involving 486 language instructors from 11 universities in Turkey indicated that Wikipedia (*f=289)* and email (*f*=242) were the most popular Internet resources used in their teaching (Celik, 2013). More recently, a study conducted with 50 teachers in an English department in Iraq found that many of the teachers used PowerPoint (96%) and computer dictionaries (98%) for teaching purposes (Mohammed, 2015). Meanwhile, in an online survey of 1048 in-service teachers from across a Midwestern state in the United States, Ruggiero and Mong (2015) informed that PowerPoint, film, or videos were some technology tools that the teachers often used in their class.

Several Indonesian researchers reported similar results. A survey with 37 EFL teachers working at different educational levels demonstrated that the teachers mostly used websites (*f*=10) to find teaching materials (Cahyani & Cahyono, 2012). In another survey with 73 in-service EFL teachers at schools and universities, Son, Robb, and Charismiadji (2011) showed that the teachers (45%) frequently used word processing. In a more recent survey that sampled 26 English teachers from 16 public senior high schools in Indonesia, the teachers mainly used online dictionaries (80.77%) and email (69.23%) in their classrooms (Muslem, Yusuf, & Juliana, 2018). In sum, websites, Wikipedia, email, PowerPoint, word processing, and dictionaries might be the most common technologies used in teaching. The author feels that discussing more various tools and applications (other than the ones mentioned above) and how the technology can be used for language learning purposes might be fruitful for the teachers.

Furthermore, previous studies reported pessimistic voices on using technology. For instance, a secondary school teacher in Seoul, Korea, acknowledged "some difficulties in dealing with resources and activities obtained from the Internet" (Park & Son, 2009, p. 92). In

Thailand, a university lecturer stated that "we are also a bit worried about using information and communication technology (ICT) or nervous about it" (Deerajviset & Harbon, 2014, p. 49). A university lecturer in Indonesia asserted a similar opinion, claiming that "I do not have enough capacity to use ICT, and I need training on how to use the tools or something like that" (Silviyanti & Yusuf, 2015, p. 39). There should be more actions to respond to these voices without passively waiting for an ICT training held by the government or related entities, which might be costly or less available in some settings. As a concrete action, this paper presents three lesson plans that integrate an easy-to-use tool (*Postermywall*) and some other technology (other than dictionaries, email, word processor, and PowerPoint), specifically to support language learning and practice students' creativity and communication in an EFL speaking and writing class.

3. Lesson plans

The lesson plans presented in this paper are supposed to practice creativity. Egbert (2017) defined creativity as the creation of original ideas, processes, experiences, or objects. Some guidelines to promote creativity include (1) creating an enriched environment (where students can explore, cooperate, and pace themselves, have rich examples and opportunities), (2) letting students show what they can do, rather than what they cannot, and (3) teaching respect for people. Additionally, creativity deals with thinking skills that can only "be learned by doing" (Henriksen, Mishra, & Fisser, 2016, p. 34).

The lesson plans are also supposed to practice communication. "Across diverse disciplines, the way professionals get things done is increasingly social, collaborative, and virtual" (Anders, 2016, p. 224). In this regard, there are types of technology-supported interactions and ways technology facilitates communication. According to Egbert (2017), social interaction happens through technology (e.g., two or more people communicate via email), around technology (e.g., students discuss a problem posed by a software program), or with the support of technology (e.g., a teacher and students interact about a worksheet obtained from a site). Egbert informed that the interaction could also be done synchronously, which occurs in real-time (e.g., in a phone call or a *WhatsApp* chat) or asynchronously, which does not happen at the same time, such as in an email conversation where people wait for some time to receive responses. Besides, Egbert believes that the communication should be conducted in a two-way interaction, which includes collaboration (e.g., planning and accomplishing something specific together) and cooperation (e.g., having separate roles in solving a problem).

The technology-based tasks presented in the lesson plans follow the International Society for Technology in Education (ISTE) standards for students (see International Society for Technology in Education, 2019a) so that the tasks can hopefully be applied in various settings. In short, "the ISTE Standards act as a roadmap for bold, innovative educators and education leaders to re-engineer their schools and classrooms for digital age learning no matter where they fall on the journey to meaningful, effective ed tech integration" (see International Society for Technology in Education, 2019b, n. p). With the ISTE standards, teachers might also learn technical aspects of technology and discover how technology enhances opportunities for students' communication and creativity (Egbert, 2017).

The main technology integrated into the lesson plans is *Postermywall,* a digital poster creation website. Users can employ free templates based on some themes (e.g., environment, holidays, sports, and many other options) (see Figure 1) to design their posters. The templates can be customized by editing words with various fonts and effects or adding photos. With its free version, users can save their poster as a PNG-format image into their computer. *Postermywall* has its own YouTube channel that provides tutorial-related videos about poster creation (visit https://www.youtube.com/channel/UCVqT84SweLqKUT90iO-dJ0w). The tool is easy to use, and students can instantly create beautiful posters (Ogen, 2012).
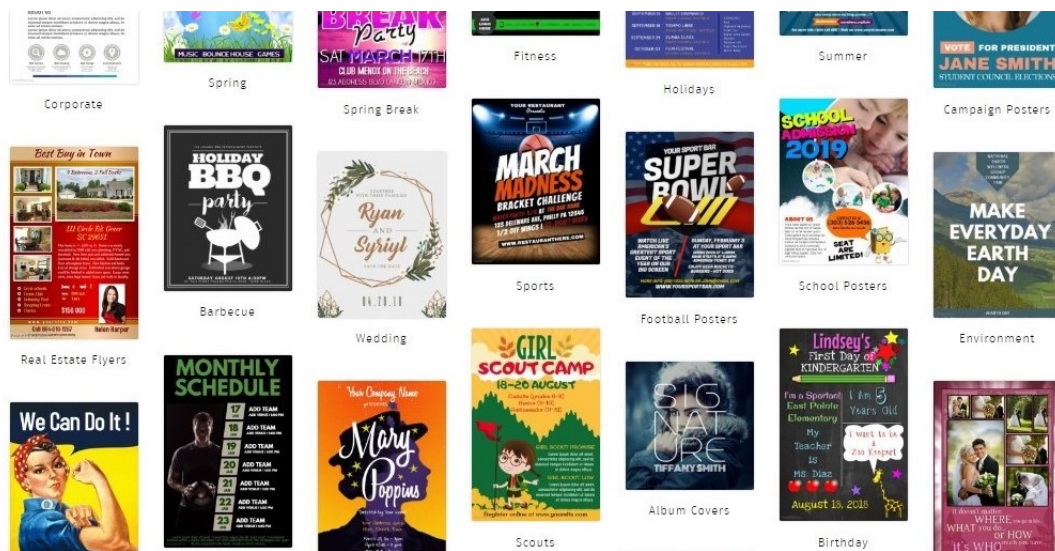

Figure 1. Some free templates in *Postermywall*

The lesson plans presented in the next sections are intended for the EFL context, assuming the COVID-19 pandemic is (almost) gone, and students can study in a face-to-face classroom.

LESSON 1: Writing a metaphor poem

Level: The first-year university students in an EFL writing class

Time: 100 mins (The teacher might need additional time if the students cannot complete all the tasks in one class meeting.)

Aims: The students will be able to (1) write a metaphor poem, (2) write sentences using the correct simple present tense, and (3) design a digital poster of the poem using *Postermywall*.

The ISTE Standard: "Creative communicator: students communicate clearly and express themselves creatively for a variety of purposes using the platforms, tools, styles, formats, and digital media appropriate to their goals" (International Society for Technology in Education, 2019a, n. p.).

Resources/ materials: Internet access, laptops or PCs, an LCD projector

Possible problems: Slow or no Internet access, unavailability of the equipment

Procedures:

1. **Opening:**

a) The teacher explains the learning aims and definitions of a metaphor poem and gives an example of the poem. In brief, a metaphor poem "is a figure of speech that makes an implicit, implied or hidden comparison between two unrelated things, but which share some common characteristics" (Literary Devices, 2019, n. p.). Below is an example of a metaphor poem written by a student:

> *My mother is a doctor from heaven.*
> *Her smile is medicine when I am sick.*
> *Her love makes my life healthy.*
> (Adapted from Mali, 2016)

b) The teacher can show the poem using the LCD projector and discuss the poem's grammatical components (e.g., a subject-verb agreement or a present tense form). The teacher can also explain the rubric used for the tasks. A potential rubric to adapt might be from these sites: https://bit.ly/metaphor_rubric1 or https://bit.ly/metaphor_rubric2 (last accessed in April 2021).

2. **Main activities:**

a) The students work individually to write a metaphor poem that tells positive feelings, impressions, or experiences about their hometown. The poem should have a title, and the students should write the poem in *Google Docs* (https://docs.google.com/), which can help to detect (simple) grammar-related mistakes in their writing.

b) The students form groups of three, share the *Google Docs*' link to their groupmates, read each other's poems, and provide constructive feedback for language accuracy.

c) The students revise their metaphor poem based on their friends' feedback and visualize the poem in a digital poster using *Postermywall*. Next, they should post the poster on their social media accounts, such as *Facebook*, *Instagram*, blogs, or other platforms based on the class agreement.

d) The students should invite people from outside the class to read the poem and leave comments. The teacher can consider this activity to promote the hometowns and make the students proud of where they are from. "Research on student production shows that students work harder when others view their work; publishing student products for only the teacher to view generally is not enough to enhance students' motivation and effort" (Egbert, 2017, n. p.).

e) The teacher can adapt the rubric to assess the work and consider the interaction or feedback that the students have from their social media as a part of the assessments.

3. **Closing:**

The students reflect on their learning activities: How well did they do? What should they do to create a better poster? How do they feel when they share their work with the audience beyond classroom walls? Do they receive positive feedback from the online audience? Why? The students may also ask the teacher questions to clarify ideas or check their understanding of the lessons.

LESSON 2: Maintaining a healthy lifestyle

Level: The first-year university students in an EFL writing class

Time: 100 mins (The teacher might need additional time if the students cannot complete all the tasks in one class meeting.)

Aims: The students will be able to (1) write imperative sentences, (2) write a descriptive-persuasive paragraph using correct Present Simple sentences, and (3) design a digital poster using *Postermywall* to remind people about healthy lifestyles related to the COVID-19 (e.g., wearing masks, maintaining social distance, or washing hands).

The ISTE Standard: "Creative communicator: students communicate clearly and express themselves creatively for a variety of purposes using the platforms, tools, styles, formats, and digital media appropriate to their goals" (International Society for Technology in Education, 2019a, n. p.).

Resources/ materials: Internet access, laptops or PCs, an LCD projector

Possible problems: Slow or no Internet access, unavailability of the equipment

Procedures:

1. **Opening:**

a) The teacher explains the learning aims, shows an example of the poster that he/she has designed using *Postermywall,* and a sample paragraph to describe the poster.

b) With the LCD projector, the teacher shows the poster (see Figure 2) together with the following sample paragraph to describe the poster:

You need to wear your mask whenever you leave your house. The mask must cover your nose and mouth so that it can protect you from the COVID-19 virus, especially when you are in a public place and meet a lot of people. Always remember to wear your mask, stay healthy, and stay safe!

Figure 2. A sample poster

c) The teacher can review the paragraph's grammatical components (e.g., showing the imperative sentences and discussing patterns of the simple present tense). The teacher can also explain the rubric used for the tasks. A potential rubric to adapt might be found at this site: https://bit.ly/poster_rubric (last accessed in April 2021).

2. **Main activities:**

a) The students work individually to design the poster. They can use "COVID-19" as the keyword to find poster designs in *Postermywall.* Then, they write one descriptive-

persuasive paragraph using correct simple-present-tense sentences to describe the poster. They can use *Padlet* (https://padlet.com/) to write the paragraph.

This *YouTube* video (https://www.youtube.com/watch?v=UkBnwPqaIjA) provides a step-by-step tutorial on using *Padlet*.

b) The students form groups of three. In each group, they share the link to their *Padlet*, read each other's paragraph, and provide constructive feedback for language accuracy.

c) The students are then asked to revise their paragraph based on their friends' feedback. Next, they should post the poster on their *Instagram* (or other similar platforms) and use the revised paragraph as their post's caption.

d) The teacher can challenge the students to promote their poster and have, for instance, fifty (50) likes from the online audience. Hopefully, messages on the poster can positively impact more people outside the class.

e) The teacher can adapt the rubric to assess the work and consider the interaction in or the likes the students have from their *Instagram* (or other similar platforms) as a part of the assessments.

3. **Closing:**

The students reflect on their learning activities: How well did they do? What should they do to create a better poster? Do they make some grammatical mistakes in their paragraph? What are the most common grammatical mistakes? What should they do so that they do not make the same grammatical mistakes? The students may also ask the teacher questions to clarify ideas or check their understanding of the lessons.

LESSON 3: Campaigning a healthy lifestyle

Level: The first-year university students in an EFL speaking class

Time: 2 class sessions (The teacher might have additional time.)

Aims: The students will be able to (1) orally persuade the online audience to maintain their healthy lifestyles (after the COVID-19 pandemic), (2) design a digital poster using *Postermywall* about healthy lifestyles (e.g., to wear masks, maintain social distance, or wash hands), and (3) create a one-minute digital video using screen-casting technology.

The ISTE Standard: "Creative communicator: students communicate clearly and express themselves creatively for a variety of purposes using the platforms, tools, styles, formats, and digital media appropriate to their goals" (International Society for Technology in Education, 2019a, n. p.).

Resources/ materials: Internet access, laptops or PCs, screen-casting applications

Possible problems: Slow or no Internet access, unavailability of the equipment

Procedures:

1. **Opening:**

a) The teacher explains the learning aims and shows an example of the poster that he/she has designed using *Postermywall* (see Figure 2). Then, the teacher introduces some (free) screen-casting applications that the students can use to create the video:

- *FlashBack*: https://www.flashbackrecorder.com/
- *Screencast-O-Matic*: https://screencast-o-matic.com/home
- *Screencastify*: https://www.screencastify.com/

b) The teacher explains the rubric used for the tasks. A potential rubric to adapt might be found at this site: https://bit.ly/video_speaking_rubric (last accessed in April 2021).

c) The students are given time to explore and record their voices using one of the screen-casting applications. They can collaborate with classmates and help one another in their exploration.

2. **Main activities:**

a) The students work individually to create a digital poster using *Postermywall.* Then, they should write the scripts for their speaking. In that case, they can apply the Present Simple tense knowledge that they learned during the writing/grammar class.

b) The teacher can ask the students to memorize the scripts they have written and work in groups of three students to practice their speaking. Each student listens to each other's presentation and gives constructive feedback (e.g., related to pronunciation, gesture, eye-contact, or grammatical aspects in the script).

3. **Homework:**

a) After the students are confident with their speaking, they can create a one-minute video using one of the screen-casting applications to persuade the online audience to maintain their healthy lifestyles after the COVID-19 pandemic.

b) In the video, the students should display the poster and their face. They should also maintain their eye-contact and *not* read the script.

c) Next, they should post their one-minute video on their *Facebook* or *Instagram* (or other similar platforms). The teacher can challenge the students to promote their video and have, for instance, fifty (50) likes from the online audience. Hopefully, more people beyond the classroom walls can be positively impacted by the video.

d) The teacher can adapt the rubric to assess the work and consider the interaction in or the likes from social media as a part of the assessments.

4. Closing:

In another class session, the students reflect on their learning activities: How well did they do? What should they do to create a better digital poster and video? Do the activities provide them with language learning opportunities? Why? Which speaking aspects should they improve? The students may also ask the teacher questions to clarify ideas and check their understanding of the lessons. They may also share some technical issues in creating the video and find solutions to solve the problems.

4. Final words

The paper has presented three lesson plans to outline the potentials of *Postermywall* in supporting language learning, students' creativity, and communication in an EFL writing and speaking class. Before using the lesson plans in a real classroom, teachers might consider planning a staff meeting, simulating the lesson plans together, finding out what works and does not in the planned activities, and making necessary modifications. In the meeting, they can also collaborate in a group of three teachers to try to design a poster using *Postermywall* and explore functions of some other technologies (e.g., *Google Docs*, *Padlet*, and screen-casting applications) described in the lesson plans. Teachers who are more tech-savvy should mentor those who are still "a bit worried or nervous about using ICT" (Deerajviset & Harbon, 2014, p. 49). Teachers can also encourage their students to explore new forms of technology independently and should be willing to learn from their students (Mali, 2017). Furthermore, when asked to share their digital posters or video on social media (see Lesson Plans 2 & 3), not all students will feel comfortable doing it. In that case, the teacher and students can always consider any other options to share the work, especially after listening to students' concerns and talking about social media safety rules. In closing, it is worth remembering that technology discussed in the lesson plans is "as transformational as we make it. It's not the tool that counts; it's what we do with it" (Muhtaris & Ziemke, 2015, p. 13).

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THE PROCESS OF DESIGNING THE FUNCTIONALITIES
OF AN ONLINE LEARNING PLATFORM – A CASE STUDY

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Abstract

This study investigates the process of designing the functionalities of an online learning platform put forward by three types of its users: students, academics and admin staff. Moreover, the study intends to get an insight into the impact the attitudes of the participants of the instruction process have on the process of the platform construction. The case study design was used to see if users of an online learning platform could contribute to defining its functionalities in the areas of creating and sharing classes remotely, conducting tests, tests and exams and advanced reporting of student activity. Moreover, the author wished to learn if different platform users would put forward similar platform functionalities. It was discovered that the parties involved in the platform construction processes may, first of all, have a lot to offer in terms of the platform functionalities and should therefore be involved in the platform construction process. Second of all, although their contributions as far as the functionalities of the platform are concerned may have a lot in common, there are certain aspects of the platform which only people involved in seemingly narrow areas can come up with.

Keywords: online; platform; functionalities; technology-enhanced; teaching

1. Introduction

There are certain considerations to bear in mind to deliver e-ducation for all. These embrace human, organisational and technological challenges to respond to with the aim of ensuring management of schools, appropriate use of technology and enthused teachers and school administrators.

Firstly, the teacher who manages online schooling in the way their digital literacy and skills allow. Thus, there are novices to e-ducation who require time and training on the one hand and pundits who juggle teaching methods, online tools and apps according to the needs, expectations and, as it is now, emergency situations on the other.

Secondly, from the organisational perspective, teacher training programmes provide academic courses on designing or constructing online learning environments (OECD, 2009; Burns, 2011; Moore et al., 2014). However, they do not train on crisis management to cushion

the effect of a widespread disaster. Having no backup plans in place, educational systems around the world have had to adapt existing methods and substitute them with online learning; at primary, secondary and tertiary level – frequently by means of trial and error. Fortunately, as studies report, education has tackled the challenges of the online instruction and most importantly has come to grips with the implementation of online means and tools of teaching (Basilaia et al., 2020; Dhawan, 2020).

Finally, there is the technological challenge. The complaint we hear from teachers more and more often is not the lack of internet tools and apps to include in their classes but their profusion. They feel overwhelmed trying to choose among commercial and non-commercial computer apps or e-learning platforms and their functionalities. This paper aims to tackle the process of designing the functionalities of an online learning platform.

2. Literature review

The process of online knowledge construction is founded on the access to commercial, open-source or free platforms[1] which manage and distribute content as well as offer numerous functionalities. As the range of the existing literature is evolving, the transition to online teaching platforms and tools confirms their value and inevitability both in pandemic and postpandemic education. The research carried out in the area of online teaching and learning has revealed varied expectations and requirements, institutional determinants and strategies to deliver appropriate content (Szadziewska and Kujawski, 2017; Smyrnova-Trybulska, 2018; Kuzminska et al., 2019). The very online platforms are required to meet a number of requirements put forward by its users which, as discussed by Abdulazeez and Zeebaree (2018:253), can be divided into *functional requirements, non-functional requirements* and *software and hardware requirements*. The construction of an online platform proves to be an integrative effort of students, teachers and admin staff as they all possess previous knowledge of working with online platforms or demonstrate specific needs concerning their functionalities. Moreover, they may simply want to be involved in designing an environment they will be using shortly. According to the research carried out by Habib and al. (2020: 1), the process (…) "provides an integrated and digital platform to key stakeholders particularly to the teachers for sharing course outlines, lesson plan, assignment generation and submission, announcements and generating assessment reports". Adopting one-model-fits-all approach

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[1] The available platforms include MS Office 365, Google G Suite, Moodle, Blackboard, EduPortal, Coursairs, Edupage to name only the most popular ones.

may lead to purchasing an expensive and complex platform whose all functionalities will be implemented only to minimum extent in practice.

Online learning platforms are not a new phenomenon and therefore the research which corresponds to their construction, application and assessment is considerable (Passey and Higgins, 2011; Moreno et al., 2017; Hodge, 2020; Di Pietro et al., 2020; Rabiman et al., 2020). Broadly speaking, the subject literature defines an online platform as an environment where learning takes place mediated by the available technology. As regards the theories on which learning platforms are founded, the most applicable may be the Technology Acceptance Model (Davis, 1986) because it postulates that the application of an information system is conditioned by the platform's usefulness and ease of use. Therefore, if platform users are affectively involved in the construction process, which requires behavioural intention to use computer-based instruction, it may determine the eventual successful or ineffective use of a platform. Platform users may not welcome the very system; however, there is a possibility that they will find it valuable if they recognise that the system will enhance their performance in action (Dillon and Morris, 1996). Consequently, learning platforms have had a substantial bearing on the direction of contemporary education. Their main function to date has been augmenting traditional instruction with digital content and, as different studies indicate, the outcomes are varied and include the ones where its impact is either positive or negative and those where further research is required for appropriate evaluation (Survey of Schools: ICT in Education, 2013, 2019; Study Report: Virtual Learning Platforms in Europe, 2010; NEPC Report, 2013; Cole et al., 2014; Selwyn, 2016; Cacheiro-Gonzalez et al., 2018; Oliwa, 2020).

Nonetheless, since the occurrence of the pandemic, the main function of online platforms has been to enable teachers to substitute traditional instruction or to hybridise it. Overall, platform users agree that they facilitate autonomous learning, enable content distribution and support interaction among users (Reinders and Darasawang, 2011; Muhammad, 2020). On top of this, platforms manage and distribute course content and offer repositories of materials, support assessment and feedback as well as support communication among users (Dahlstrom, 2014; Kurucay and Inan, 2017; Garcia-Aretio, 2017; Bartolomé et al., 2018).

The scarce research on the customisation of learning platforms does not undisputedly support the view that integrating different parties in the process of platform construction can ensure the success of the platform. Moreover, "technology does not in itself bring about successful learning" (JISC, 2009: 17) and the app generation may rely on teachers to guide

their effective strategies for using technology in learning. As indicated by Nat et al. (2011), there are no apparent differences between the results achieved by students who use platforms tailored to their requirements or those who access the ones constructed with an average user in mind.

3. The study

3.1. Aims and research questions

The study attempts to examine the process of designing the functionalities of an online learning platform put forward by three types of its users: students, academics and admin staff decisions concerning the choice of functionalities of an online learning platform at the East European State Higher College in Przemyśl (hereinafter referred to as 'the college'). The available research may indicate that the area of online learning, with its impact and quality as well as the customisation of online environments, largely owning to the unexpectedness of current circumstances and the lack of such studies, has become the centre of attention. Therefore, the present study also aims to draw attention to the importance of the platform construction process. The study aims to determine the following research issues:

1. To what extent may users of online learning platforms help to define their functionalities?
2. Will different users put forward similar platform functionalities?

The data was gathered with the intention of addressing the two research questions as well as choosing or designing an online learning platform equipped with the required functionalities. The construction of the platform was meant to be outsourced and purchased through bidding procedures and implemented in an academic environment. Similarly, an examination and assessment of the very process and its follow-up was intended to be undertaken in view of the anticipated results, future recommendation and modifications to respond to new educational requirements and expectations in the pandemic times.

3.2. Design and procedure

The case study design was applied with the aim of finding the scope of the required online platform functionalities. Moreover, it intended to get an insight into the impact the attitude of the participants of the instruction has on the process of the platform construction. The case study design included such tools as document analysis, interviews and an online survey.

The analysis was based on the requirements issued by the Polish Minister of Science

and Higher Education and the Rector of the College prior to the coronavirus pandemic - March 2020 and those released afterwards. The official parties involved in the legal process included the Council of Ministers, the Minister of Science and Higher Education, the Minister of Health and the Rector of the East European State Higher College in Przemyśl. They all issued the regulations concerning the organisation of studies with the use of distance learning methods and technologies as well as the tasks and functions of organizational units supporting their implementation at the college.

The interviews used in the case study were conducted individually with randomly chosen five representatives of each group of participants, namely students, teachers and administrative staff. The admin staff were questioned at prearranged times on the same day in face-to-face interviews conducted one after another. The interviews with the students and teachers were also arranged one after another on MS Teams in a dedicated team. The reasons for conducting individual or online interviews was a response to the recommendations by the Ministry of Health to limit the spread of the COVID-19 virus, assemblies and events and the shutdown of all educational process on all levels of studies. either face-to-face or online. All the participants were requested to provide their recommendations in three areas; namely, the platform's administration and management, instructional environment and reporting. Their responses were recorded in the written form for further processing.

The online survey tool used was researchonline.pl, a Web-based advanced online research tool which allows creating professional surveys and conducting complex research from any computer with an Internet connection and a full-featured Web browser. The language of the survey, similarly to the interviews, was Polish as not all the study participants' command of English allowed for undisturbed understanding of the survey questions.

The survey comprised three sections. Sections one and two aimed at getting the participants to ease themselves into the survey and they concerned the participants' general opinions and experience of distance learning whereas part two dealt with organisational and legal issues of the distance education introduced in the pandemic. Finally, section three of the survey was composed of five parts. Part A inquired about the functionalities which would allow teachers to organize and store course content. Part B dealt with posting tests, exams and assignments. Part C enquired about reporting students' grades and activity. Part D encouraged the participants to enumerate any other platform functionalities they considered indispensable. In the last part of the survey the participants could voice any other comments and recommendations about new online platform under construction.

All sections of the survey comprised open-ended questions so as to encourage authenticity and empower participants, as well as examine their expectations about the features of the platform in the areas of creating and sharing classes remotely, conducting tests, tests and exams, and advanced reporting of student activity. The data collected allowed the researcher to obtain information about the most important characteristics of a platform and the frequency of responses.

3.3. Research participants

The participants who took part in the study consisted of two groups. The first group comprised the students who were listed in the student database. This included undergraduate and postgraduate degree students of all available degree courses. The number of the students who responded to the survey was 30% of their total number. The other research group encompassed teachers and admin staff. The number of the teachers who responded to the survey was 21% of their total number. Additionally there were five members of the admin staff, the same who had already participated in the interviews. The survey link was distributed to all teachers and students whose email addresses were available in the database. The email address had been obtained previously during the interviews. Both the teacher and student groups had had some introductory online platform experience as the studies programme allowed, without stipulating which one, the use of an online platform and some courses had already included the online Moodle component. It constitutes a web-based learning management system which allowed course content distribution, collecting and grading assignments, hosting online discussions and sharing resources.

3.4. Results and findings

3.4.1. Document analysis

The analysis of the documents issued prior to the outbreak of coronavirus as well as those issued in response to the coronavirus pandemic indicates a different approach taken by the lawmakers concerning the management of classes with the use of distance learning methods and technologies.

Naturally, the requirements and recommendations issued by the Minister of Science and Higher Education in the years prior to the platform construction process correspond to the general issues concerning the organisation of distance learning. The regulations issued by the Rector relate to local circumstances and conditioning. However, no requirements are offered regarding the specifics of the online platform including its components, features or functionalities, except for the general mention of Moodle. In 2020 the Ministry gave no recommendations as to the features, functionalities, tools or cost of online learning platforms. The right to choose a platform, specify its subsystems and functions as well define the organization of remote studies is one of the autonomous powers of universities. Technical issues related to the verification of learning outcomes, as well as the methods of ensuring ongoing control of its course, are determined by the university at the organizational level, taking into account its infrastructure. The available recommendations concern distance learning tools and platforms submitted to the Ministry of Science and Higher Education by service providers. Universities which need substantive, organizational or financial support, are requested to contact the Ministry. The Rector complies with the general recommendations of the Ministry and implements corresponding regulations.

3.4.2. Interviews

The detailed examination of the interview results which shows the distribution of similarities and differences between the answers provided by the parties depending on the interviewee group and platform functions is presented in Table 1 below.

As regards the platform administration all groups advocated the division of the platform into modules (e.g. announcements, assignments, settings etc.), which can be switched on and off by a course teacher and admin staff. The platform should support different media formats and enable external linking to third party resources. Moreover, external applications should be integrated and supported by the platform. Another requirement put forward by the teachers and students is free access to the platform. The admin staff mentioned the features which are vital from the perspective of the technical personnel. These included assigning course roles, security features or setting passwords. The array of the platform functionalities provided by the admin staff was the broadest one which may be due to the fact that their managerial and administrative competence was extensive and based on hands-on experience.

In terms of the instructional environment, the teachers' group may be perceived as the most resourceful one because they enumerated the most wide-ranging list of functionalities.

However, the areas of similarity among the three groups include different media format support (also mentioned in the first criterion), automatic and customisable feedback system, repository of resources and task completion record. Further to the above, the teachers included those functionalities which may streamline their work: different file support, different means of content presentation, customisable surveys and co-teaching option. Additionally, the admin staff suggested the notification of new content option.

As for the reporting functions of the platform, the discrepancies among the groups are visible; however, the teachers provided the most qualitative functionalities of the platform. They included task display format, task retake option, qualitative and quantitative progress evaluation as well as different feedback format.

Finally, as regards other comments expressed in the interview, they concerned social media integration, mobile phone application, accessibility functions and regular platform support and update.

3.4.3. Survey

The detailed analysis of the online survey reveals a comprehensive picture of the preferences for platform functionalities. Moreover, it is collated with the results of the interviews to seek any similarities.

When analysing the first section of the online survey (Part A), which asked to provide the platform functionalities in the area of creating and sharing classes remotely, both students and teachers highlighted the importance of video conferencing, screen sharing and screen recording. Other functionalities included a customisable archive of materials, notifications of new feeds and upcoming events as well as sharing the sound only. The following section (Part B) revealed that both groups thought that random question/test generators and customisable access time would be convenient functionalities. Moreover, students' participation in content construction, reliable hardware and virtual presence of a lecturer during assignments were mentioned in the responses.

Part C of the questionnaire enquired about reporting students' grades and activity. It revealed that the most desired option is the electronic academic transcript as well as the attendance and grade record. Furthermore, the students expected the platform to include such functionalities as exam notification, grading report available for a nominated student, immediate feedback on a grade or exam results, variety of assessment types and finally tracking the progress of students in achieving the learning objectives. In Part D the students and teachers alike wanted the online learning platform to be available on mobile phones.

Other interesting functionalities mentioned by the students encompassed customisable user profile, social media integration, contact with the secretary or rector's office and cloud storage space.

The last part of the survey asked the participants for their comments and recommendations concerning the new college teaching platform under construction. It can be discerned that the answers focused on very down-to-earth choices whose aim is mainly to streamline functioning of the platform, improve the quality of instruction and assessment provided and ensure a user- and environment-friendly platform. It was discovered that the parties involved in the decision making process may have, first of all, a lot to offer in terms of the platform's functionalities and therefore should be involved in the construction process. Although their contribution as far as the functionalities of the platform are concerned had a lot in common, there may be certain aspects of the environment which only people involved in very expert areas can come up with.

3.4.4. Postulated functionalities

Table 1 below shows the functionalities of the platform as postulated by its future users. The most imperative findings as far as the management of the platform are concerned refer to resemblance of the platform to the available social networking sites and their functionalities. This also refers to a mobile application of the platform to run on any mobile device such as a phone, tablet or smartwatch from any location. Furthermore, the platform is required to integrate the most popular social networking sites in its interface. However, the question that arises at this point is whether or not an online learning platform is required to resemble social networking sites and to what extent since it has a didactic aim rather than a social function. All parties stress that the user interface must be constructed in such a way so as to make it intuitive and customisable. All file formats and media types should be supported. The platform must ensure the protection of all content, personal data in particular.

From the instructional standpoint, also emphasised in the section dealing with platform management, content should be available from any device and any location (anytime / anywhere learning) so students can complete tasks autonomously outside school which provides an augmentation of a traditional form of learning. The application generation, well-accustomed to different media types and formats, requires the platform to offer multisensory output. This may not necessarily denote students only as increasingly more and more teachers flexibly apply new technologies. Both teachers and students stress that all the content accessible in a repository should be customisable and reusable depending on the authorisation

type. As highlighted in previous studies (Plastina 2015), it may encourage a personalised learning path according to each student's strengths, needs and temperaments, while enabling them to work collaboratively in an online social context which follows the assumptions of social constructivism. It claims that human advancement hinges on social interaction and knowledge is acquired, constructed and applied through teamwork. The platform should support such teamwork and cooperation because students and teachers progress in social networking. This also supports the idea of connectedness as it offers real-life contexts in which students discover instructional content in the time and place of their choice. Moreover, it is mandatory that the construction of the platform supports the inductive approach to teaching based on discovery and placing the learner in the centre of the instruction process. This, in return, may lead to better student interaction and involvement, improve higher order learning skills and foster their critical thinking. Consequently, students may gain deeper understanding of the studied content. The immediate feedback which students receive on their performance has an impact on their motivation and sense of achievement.

Other important comments and recommendations expressed by the parties under examination include cloud storage which allows file maintenance, management and back-up over the internet rather than using local servers to store data which may turn out more costly, less secure and less reliable if in-house technicians are not at hand. Another recommendation referred to the cost of the online learning platform. Preferably, such a platform should be free of charge to use for both students and teachers which does not imply that the initial purchase cost does not exist. Conversely, any commercial software which is free to use for its users may be a considerable financial burden for an institution. Yet another comment dealt with the very decision to implement online learning and its outputs. If such a decision was taken then it should lead to the paperless education that has numerous advantages, some of which include preparing students for their future, improving organisational skills or boosting efficiency. The suggestion to link the content available on the platform with external resources might be an incentive to implement such learning initiatives as Massive Open Online Courses as well as other free courses into regular platform resources. They may augment the online learning environment with evergreen, interactive video lectures, exercises, or readings and offer assessment tools which only distance education can provide.

Table 1. Specifications and functionalities of the online platform

1.	**Creating and sharing classes remotely**

a. anyplace/anytime access;
b. customisable user interface;
c. advanced set of tools for delivering and conducting classes (e.g. video conferencing, presentation; screen sharing; live streaming etc.);
d. assigning user roles;
e. attendance registration module integrated with the evaluation system,
f. customisable course modules (e.g. switch on and off)
g. customisable course content (e.g. chapters, unites, paths, plan content, co-edit content omit content, hide content, go to further content, block content, allow content etc.);
h. file attachment;
i. external links;
j. assigning tasks on external resources;
k. social media integration;
l. social media functionalities;
m. mobile applications;
n. import courses or their elements,
o. communication tools between participants,
p. records of uploads and user logs and files;
q. opinion polls;
r. instructional training for users;
s. helpdesk;
t. changes introduced by the helpdesk within 24 hours,
u. technical support by email / telephone;
v. disability friendly interface;
w. regular platform update.

2.	**Conducting tests and exams**

a. various assessment tools (e.g. true/false, match, multiple choice, multiselect, complete text);
b. registration module
c. archive of text chat, video-conferencing, transferred files;
d. test modules support various file formats;
e. text or voice comments to the submitted work/tasks;
f. predefined assessment scales;
g. predefined weighting of grades;
h. test result calculation and assessment tools;
i. open-ended essay questions,
j. peer evaluation;
k. co-authoring;
l. all tests / exams limited by a deadline or password;
m. extended assessment information (e.g. various assessment elements of the same course);
n. customisable test management (e.g. result formats, deadlines, upload delays and test access logs);
o. oral written assessment combination;
p. helpdesk;
q. changes introduced by the helpdesk within 24 hours;
r. assigning tasks on external resources (e.g. MOOC);
s. technical support by email / telephone;
t. disability friendly assessment settings.

3.	**Advanced reporting of student activity**

a. reports of all activities in the course,
b. user and group activity reports,
c. individual student performance in the form of grades
  - any task;
  - for a given period / semester;
  - for a given type of task;
  - all tasks.
d. individual student performance in the form of percentage
  - any task;
  - for a given period / semester;
  - for a given type of task;
  - all tasks.
e. quantitative or qualitative feedback on the performance of the participant / group;
  - any task;
  - for a given period / semester;
  - for a given type of task;
  - all tasks.
f. feedback on the student's grades with their weights,
g. pre-defined automatic post-task comments,
h. teacher's comments sent in a separate file in the form of a text or voice recording,
i. comment limited to one student or all course participants.

4. Discussion

Table 2 below presents the postulated functionalities and features of a required online platform confronted with those which selected online learning platforms available on the market offer. The platforms brought together for comparison are Moodle, Canvas, Office 365, Google G Suite and EduPortal. The functionalities embrace creating and sharing classes remotely, conducting tests and exams and advanced reporting of student activity. Some major similarities and differences can be discerned between the users' expectations and what individual platforms can make available. Moodle, despite being a free tool, offers one of the largest arrays of functionalities. As an open-source solution, however, it relies on individual initiatives to implement, maintain and troubleshoot the platform which commercial solutions e.g. EduPortal guarantee and are accountable for. Other free platforms e.g. Office 365, Google G Suite, on the other hand, do not contain so many functionalities tailored to meet certain requirements as commercial products do, but nevertheless, we have seen and can predict their development and the addition of new applications as a response to both the continuing pandemic and feedback received from their users. Another application model can be used where one major online platform is extended and supplemented by external solutions for better functioning of the platform (EduPortal uses MS Teams for video conferencing).

Often the considerations about the types of online learning platforms hinge, to a large extent, on the cost and here the distinction is into the commercial products and free / open source alternatives. Open-source solutions are free of charge, their source code can be modified or extended to satisfy individual requirements but do not provide human technical support or troubleshooting services and they are available only by online forums or guide sections. Commercial tools, in contrast, offer after-sales assistance and their implementation is supervised by technicians. Finally, the decision with regard to on-line learning platform can be subject to reviews, rating, training and integrity with the existing solutions or pedagogical assumptions.

Table 2. Presentation of the postulated platform functionalities confronted with the market offer

Platform / Functionalities	MOODLE[2] release 3.10	CANVAS[3] free learning platform	OFFICE 365 / GOOGLE G SUITE[4]	EDUPORTAL[5]
Creating and sharing classes remotely	- anyplace/anytime access; - customisable user interface; - advanced set of tools for delivering and conducting classes; - assigning user roles; - customisable course modules; - customisable course content; - file attachment; - external links; - social media integration; - mobile applications; - import courses or their elements; - communication tools between participants; - records of uploads and user logs and files;	- anyplace/anytime access; - assigning user roles; - attendance registration module - file attachment; - external links; - mobile applications; - import courses or their elements; - communication tools between participants; - records of uploads and user logs and files; - guides for users; - guide forum.	- anyplace/anytime access; - customisable user interface; - advanced set of tools for delivering and conducting classes; - assigning user roles; - attendance registration; - customisable course modules; - customisable course content; - file attachment; - external links; - assigning tasks on external resources; - mobile applications; - communication tools between participants; - records of uploads and user logs and files; - opinion polls;	- anyplace/anytime access; - advanced set of tools for delivering and conducting classes; - attendance registration module integrated with the evaluation system, - customisable course modules; - customisable course content ;; - file attachment; - external links; - import courses or their elements; - communication tools between participants; - records of uploads and user logs and files; - opinion polls; - instructional training for

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[2] Examples of MOODLE extensions include SmartKlass™, Dialogue and Attendance.

[3] Presently, CANVAS is available in three different versions; i.e.: www.canvaslms.com – paid learning platform builder, www.canvas.instructure.com – free learning platform builder and www.canvas.net – online learning provider.

[4] Both of these platforms are free for education and offer similar collaboration, usability, tools and extensions.

[5] EduPortal is a commercial platform supporting the work of universities. It enables a comprehensive management of students, faculties and broadly understood didactics.

	- opinion polls; - instructional training for users.		- external instructional training for users; - technical support by email / telephone; - limited disability friendly setting; - regular platform update.	users; - helpdesk; - changes introduced by the helpdesk within 24 hours, - technical support by email / telephone; - disability friendly interface; - regular platform update.
Conducting tests and exams	- various assessment tools; - registration module; - archives; - test modules support various file formats; - predefined assessment scales; - predefined weighting of grades; - test result calculation and assessment tools; - open-ended essay questions, - co-authoring; - all tests / exams limited by a deadline or password; - customisable test management;	- registration option; - archive of files; - test modules support various file formats; - test result calculation and assessment tools; - open-ended essay questions, - peer evaluation; - co-authoring; - customisable test management.	- various assessment tools; - registration module; - archives; - test modules support various file formats; - text comments to the submitted work/tasks; - predefined assessment scales; - test result calculation and assessment tools; - open-ended essay questions, - co-authoring; - all tests / exams limited by a deadline; - extended assessment information (e.g. various assessment elements of the same course); - customisable test management; - technical support by email / telephone.	- various assessment; - extended registration module; - archive of text chat, video-conferencing, transferred files; - test modules support various file formats; - text or voice comments to the submitted work/tasks; - predefined assessment scales; - predefined weighting of grades; - test result calculation and assessment tools; - open-ended essay questions, - peer evaluation; - co-authoring; - all tests / exams limited by a deadline or password; - extended assessment information; - customisable test management; - oral written assessment combination;

				- helpdesk; - changes introduced by the helpdesk within 24 hours; - assigning tasks on external resources; - technical support by email / telephone; - disability friendly setting.
Advanced reporting of student activity	- reports of all activities in the course; - user and group activity reports; - individual student performance in the form of grades; - individual student performance in the form of percentage; - feedback on the student's grades with their weights; - pre-defined automatic post-task comments; - teacher's comments sent in a separate file in the form of a text or voice recording; - comments limited to one student or all course participants.	- reports of all activities in the course; - user and group activity reports; - individual student performance in the form of percentage; - pre-defined automatic post-task comments; - teacher's comments sent in a separate file in the form of a text or voice recording; - comment limited to one student or all course participants.	- reports of all activities in the course; - user and group activity reports; - individual student performance in the form of percentage; - quantitative or qualitative feedback on the performance of the participant / group; - pre-defined automatic post-task comments; - teacher's comments sent in a separate file in the form of a text; - comment limited to one student or all course participants.	- reports of all activities in the course; - user and group activity reports; - individual student performance in the form of predefined grades; - individual student performance in the form of percentage; - quantitative or qualitative feedback on the performance of the participant / group; - feedback on the student's grades with their weights; - pre-defined automatic post-task comments, - teacher's comments sent in a separate file in the form of a text or voice recording, - comment limited to one student or all course participants.

5. Conclusions and recommendations

As the available subject literature reveals and the present study confirmed, the more integrative the process of an online platform construction is, the more comprehensible a platform may be accomplished. In other words, a more diverse group of users involved in choosing the required platform functionalities may ensure a better online environment. Moreover, all the groups engaged in the construction process may provide both similar ideas to choose the core functionalities of a platform as well as different ideas which may satisfy local requirements of each party (Habib and al., 2020). Consequently, this may contribute to creating a platform based on strong triangulated foundations supported by legal requirements for such platforms. It may be a sensible solution, if financial resources to purchase one complex online platform are scarce, to collect appropriate free or open source applications and tools separately and combine them into an integrated online learning platform. The process is often possible as different tools are built to integrate and provide a user-friendly, intuitive environment.

The competences and skills acquired by the different groups of users in platform construction process may be valuable in the years to come as education will function in a new, hybrid normal, which is also confirmed by the available research (Basilaia and Kvavadze, 2020). Taking into consideration the contribution made by all the participants of the study, the students who provided the largest number of answers were the most keen to share their ideas concerning the online learning platform and its functionalities which could stem from the fact that they feel more at ease with the online environment and its features. Moreover, as the research indicates, the reason for the preparedness to use online tools may stem from the student personality type, individual preferences or preference poles (Bolliger and Erichsen, 2013) as well as from the fact that they enjoy combining the traditional with the new, the classroom-based with the online (Keskin and Yurdugül, 2019). The introduction of the platform is conditional on the appearance of new generations who obtain and process knowledge differently as compared to previous generations. Because social distancing and self-isolation influenced various aspects of education and have changed the way it is run, proper data collection, its analysis and execution becomes a must, bearing in mind the fact that coronavirus and its aftermath will be felt for many years to come.

The conclusions drawn from the study correspond to different subjects of the platform construction process and the contribution they may offer. Firstly, their involvement gives them agency on the one hand and makes them liable on the other. Different platform users, becoming involved in the construction process, may contribute to a better selection of the

required functionalities. They may also discover their own and their peers' needs and potentials as previously indicated by Szadziewska and Kujawski (2017), Smyrnova-Trybulska (2018), and Kuzminska et al. (2019). Conversely, one limitation of the platform construction is the fact that its users are not involved in the content design and creation which they later on access. It is the author's belief that the data collection stage requires an appropriate length of time to be a reliable source of information for the platform's construction. Moreover, the platform should be flexible and allow further modifications and augmentation of the functionalities depending on the changing circumstances and new resources being made available continuously.

The far reaching implications include the extension of the programme of studies with digital tools and content so as to provide a hybrid model of education in the postpandemic years as in the author's opinion this may become the new normal. Hopefully, the study will help other teachers and decision makers to examine and choose the platform tailored to their requirements.

The study confirms other authors' findings in the field of online platforms (Passey and Higgins, 2011; Moreno et al., 2017; Hodge, 2020; Di Pietro et al., 2020, Rabiman et al., 2020) and necessitates further examination as regards the construction, functionalities and most importantly the impact of online platforms on learning. Further research is required not only to provide guidance for all the above mentioned factors, but most importantly to answer the questions of maintaining the quality of education as the next school year is likely to be completely different from the norm. Besides, in a long term perspective, queries concerning the leadership in education, teachers' competences, management model or investments will have to be dealt with. Students require clear messaging from their college about the upcoming academic year. While it is difficult to predict exactly where we will go, it is important universities are as clear as possible in their efforts to provide the best online study conditions possible.

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