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Teaching grammar and vocabulary in COVID-19 times: Approaches used in online teaching in Polish schools during a pandemic

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Technology has been called to the rescue on a number of occasions, be it in large classes, under-resourced contexts, after earthquakes or other natural disasters. The COVID-19 pandemic which struck the whole world in Spring 2020 afterwards necessitated a sudden shift from face-to-face to distance teaching. With no preparation, no training and very little support from the state, language teachers had to find their own ways transferring language instruction to the online medium. This paper explores the modes, approaches, affordances and obstacles of COVID-era grammar and vocabulary teaching in Poland. Apart from examining the shape of online teaching from two perspectives (student teachers and school teachers), the study confronts the approaches used in Polish schools against well-established models: stages of CALL (Warschauer & Healey, 1998, Bax, 2003), SAMR (Puentedura, 2006) and Skills pyramid (Hampel & Stickler, 2005).

Keywords: emergency online teaching; SAMR; CALL teacher education; grammar; vocabulary

1. Introduction

The COVID-19 pandemic, which struck the whole world in February 2020 and continued for a number of months after that, exerted a great influence on the way people lived, interacted and got educated. Sudden country lockdowns necessitated change in all established ways of working, living and learning, including language education. Foreign language teachers suddenly found themselves in a new reality, with technology-mediated instruction of different kinds substituting for traditional face-to-face teaching.

Technology has served emergency situations in language education before, for instance, in case of overcrowded and mixed-ability classes (Krajka, 2010), regions afflicted with earthquakes or tsunamis (Baytiheh, 2018) or COVID-19

lockdowns (Dhawan, 2020). Similarly to those contexts of natural disasters, COVID-era language education in Poland was marked by a sudden shift from traditional to distance teaching, inadequate provision of computer resources for students, lack of Ministry-recommended platform, varying degree of support received by language teachers at schools from principals and Information Technology (IT) teachers/technicians. Consequently, the summer term from mid-March 2020 till the end of the 2019/2020 school year exhibited a great diversity of approaches, procedures, activities, and teaching styles, which were used by language teachers in primary and secondary instruction.

The present paper will investigate the faces of COVID-era vocabulary and grammar instruction in Polish schools. In particular, it is our interest to see what kinds of activities were implemented and which online tools proved particularly useful to assist grammar/vocabulary teaching. On the basis of these data elicited from student teachers and their mentors, we will try to generalize on which approaches to Computer-Assisted Language Learning (CALL) they can be attributed to and to what extent language teachers sought replacement, augmentation, modification or reformulation of traditional instruction in the online mode. To that end, lesson plans, digital resources, observations and interviews conducted during teaching practices by applied linguistics students in April, May and June 2020 will be subject to analysis and evaluation in reference to Puentedura's (2006) SAMR model and Hampel and Stickler's (2005) "Skills pyramid" model.

2. Background to the study

2.1. Grammar and vocabulary technology-mediated instruction

Much research has been conducted into how computer-mediated teaching, be it in the online, blended or self-study mode, enhances acquisition of components of language. In particular, previous studies explored the effect on grammar and vocabulary acquisition exercised by watching animated subtitled cartoons (Karakas & Saricoban, 2012), captioned and caption-glossed business English videos (Hsu, 2018); teacher-guided and individual corpus consultation (Marinov, 2013), task sharing in MALL-mediated social networks (Khodabandeh *et al.*, 2017), Moodle-based social constructivist learning (Bataneh & Mayyas, 2017), collaborative comic-strip creation (Cabrera *et al.*, 2018), vocabulary reporting activities (Arifani *et al.*, 2020), English for Academic Purposes (EAP) items retention (Simanjuntak, 2020), learner-constructed concept-mapping (Liu, 2016), online flashcard paired associate practice (McLean *et al.*, 2013), indicating increased gains in vocabulary and grammar in experimental groups exposed to computer-mediated treatment.

CALL research into grammar and vocabulary acquisition has also focused, quite extensively, on the design of personalized learning environments, be it in ready-made (e.g., Moodle – Bataneh and Mayyas, 2017; Quizlet – Dizon, 2016) or custom-made form (Stockwell, 2013). Alternatively, adapting materials to open new vocabulary acquisition possibilities has been explored, mostly within

the use of hypertext-based textual glosses (deRidder, 2002), text-picture glosses (Yoshii, 2006), multimedia glosses (Yanguas, 2009; Ramezani & Faez, 2019), as well as concordance-based glossing (Lee *et al.*, 2017). Enhancing grammar teaching with technology has taken various forms, mainly in the blended learning mode. As proved by Li and Hegelheimer (2013), students' performance in a grammar-oriented mobile application reflects their progress in self-editing, is positively correlated with the gains on a grammar post-test, an increase in self-editing corrections, and a reduction in errors in writing assignments. In yet another instructional approach (Leong *et al.*, 2019), digital storytelling assisted acquisition of grammar and vocabulary within the framework of Cognitive Theory of Multimedia Learning (Mayer, 2001) enabled implicit vocabulary and grammar learning. Blended teaching of grammar and vocabulary, finally, can rely on Data-Driven Learning and corpus consultations (e.g., Huang & Liou, 2007; Marinov, 2013), through which learners can improve their grammar and vocabulary scores after engaging in individual and teacher-guided online activities.

2.2. Approaches to designing technology-mediated grammar/vocabulary teaching – from Behaviourist CALL to SAMR

As early theorists of Computer-Assisted Language Learning (CALL) show, technology-mediated instruction emerged from and was juxtaposed against dominant theories and approaches to learning in general. As a result, the early distinction into behaviourist, communicative and integrative technology-mediated instruction was developed (Warschauer, 1996; Warschauer and Healey, 1998). Pejoratively viewed as 'drill-and-kill', the behaviourist form-focused activities in which the computer plays the role of a mechanical tutor which allows students to progress through the material at their own pace, delivering unbiased feedback and administering repetitive close-ended activities prove to be highly useful even in the 21st century, obviously, in new multimedia environments such as Duolingo, Memrise or Quizlet (Dizon, 2016).

The Communicative CALL approach, with focus on using forms rather than on forms themselves, and implicit grammar teaching, enables students to generate original utterances rather than just manipulating prefabricated language, creating a computer-based environment in which only the target language is used and in a natural fashion (Warschauer and Healey, 1998). Consequently, in a communicative classroom a computer is used to stimulate discussion, writing or critical thinking, and is often viewed as a tool or 'workhorse' while learners have more choice, control and interaction (Davies, 2002). With the predominance of communicative approaches in language classrooms nowadays, a renewed look at Communicative CALL procedures is useful to make technology-mediated grammar and vocabulary teaching compatible with coursebooks and curricula used in brick and mortar classrooms.

Integrative CALL came into existence following the shift from a cognitive to a social view of Communicative Language Teaching, which "placed greater emphasis on language use in authentic social contexts" (Warschauer and

Healey, 1998, p. 59). Synchronous and asynchronous communication channels, access to a great amount of authentic target language information, and unlimited Web publishing opportunities have paved the way for a whole range of new tasks, such as WebQuests, Web concordancing, collaborative writing, online multimedia, Web-based authoring, distance learning, etc. (Bax, 2003; Chambers and Bax, 2006).

Technology-mediated language teaching of the 21st century has been influenced by the main theories informing decisions taken by CALL practitioners and designers (Levy and Stockwell, 2006): Interaction Account of Second Language Acquisition, Sociocultural Theory, Activity Theory and Constructivism. The present day of CALL sees automated activities rooted in the SLA theory, together with exploitation of collaborative aspects of learning a language within the Sociocultural Theory and Constructivism. With the evolution of the Internet and emergence of Web 2.0 applications the learning theory of connectivism, which integrates technology and connection-making in learning activities to make students derive competence from forming networks, started to gain ground, resulting in a new dimension of Computer-Mediated Communication.

Rather than think about the underlying learning philosophy such as behaviourism, social constructivism or connectionism, much discussion nowadays is dominated by the reflection on how grammar and vocabulary instruction in a technology-mediated setting is different from the same lesson/activity in the traditional classroom. This was the rationale for the emergence of the SAMR model (Puentedura, 2006), where integration of technology into the teaching practice follows along the four stages of Substitution, Augmentation, Modification and Redefinition. In each stage of the model, digital technology is one of the main components, however, it plays different roles (Ross *et al.*, 2018). While a progression from S to R is implicitly superior, with R tasks showing higher-level instruction, Substitution tasks might be equally (or even more) effective in time-/technology-/skill-limited contexts. Furthermore, the instructional activity within the SAMR framework can be divided into two types: enhancement and transformation (Romrell *et al.*, 2014). In the SAMR model, Substitution and Augmentation are considered as learning enhancement, while Modification and Redefinition are parallel to transformational learning (Hamilton *et al.*, 2016). As was proven by Azama (2015), students showed an improvement in their performance during the Modification and Redefinition stages. Also, many showed their interest in continuing the lesson by using technology and developing technology-related learning strategies when cooperating with their peers.

Applying the SAMR model in vocabulary instruction has been considered highly useful by many researchers mainly due to a varying type of tasks and growing cognitive demand. As proved by Djiwandono (2020), as the learners went through the different stages of SAMR, they tended to use digital technology more frequently and use more varied strategies. Even though their vocabulary learning still relied on repetition and dictionary use, the latter was made much more efficient by the use of digital technology. The SAMR model, particularly the modification and redefinition stage, expanded their learning

scope by permitting them not only to memorize vocabulary but also writing essays with the new vocabulary they had just learned.

2.3. *Switching grammar and vocabulary instruction to the online mode*

While the research into pandemic-style online teaching is still in its infancy, the review of studies into blended learning does provide some useful reference on how to understand the conditions and circumstances that govern the effectiveness of the switch from face-to-face (F2F) to online teaching. Trinder (2016) advocates investigating learners' reported use as well as their views on the potential of specific technological resources for language learning with the aim of widening the perspective and surveying students' ideal learning environments. Trinder's research showed students' preferences for teacher-fronted classes in technology-mediated settings, which seems justified in the pedagogical framework introduced as a pandemic-era emergency solution in Poland.

Blended learning research (e.g., Sagarra and Zapata, 2008; Grgurović, 2012) shows the significant influence of a technology-mediated component on grammar and vocabulary acquisition, with accessibility to materials, user-friendliness, and instant error feedback as most frequently quoted benefits. The addition of a MALL blended learning component (Sato *et al.*, 2020) not only leads to increased L2 lexis acquisition with gains in vocabulary recall, but also fosters autonomous attitudes and helps increase students' awareness of self-directed learning. Apparently, this might be a viable solution for classes taught online provided the schools worked in the hybrid mode (e.g., 2 weeks face-to-face and 2 weeks online), which was supposed to be the teaching setup before the second wave of the pandemic closed Polish schools down completely in November 2020.

Simple methodologically but complicated technologically, Broadway's (2011) idea of transferring a coursebook into Moodle to come up with a website/print textbook combo proves useful in institutions or countries where infrastructure, computer resources and IT skills are limited, and where making the "digital leap" would be even more difficult.

More sophisticated in terms of methodology, a particularly effective strategy for transfer of language instruction to the online mode can be the redefinition of existing instructional models, their redefinition and merging into a new model. This is exemplified in the study of Awada and Burston (2020), who showed how the integration of cooperative learning and WebQuest activity format led to increased intrinsic motivation, greater willingness to engage in debating and enhanced intercultural communication skills.

However, the previous studies (e.g., Sagarra and Zapata, 2008) assume gains were due to the presence of a regular F2F component, which could anchor and give proper perspective to the online individual work. Despite benefits, online grammar teaching in the blended learning mode carries significant problems, such as frustration at excessive amount of time needed and at technical problems encountered, lack of support for students or their rejection of the computer as a medium for language learning, finally, insufficient connection/



complementarity between the F2F and computer-assisted components of the 'blend' (Sagarra and Zapata, 2008; Stracke, 2007; Scida and Jones, 2016).

Successful incorporation of a technology-mediated teaching component into the curriculum is conditioned by a number of factors. According to Burston (2014), the predictors of success are the encouragement of the administration, financial support and technological infrastructure, as well as curricular flexibility and willingness, pedagogical training and technological expertise of teachers and their colleagues, while the lack of financial and technological support together with absence of curricular flexibility are significant negative impediments. Few of these requirements might actually be met in an emergency teaching switch setting.

The problems of coping with limited technology and the digital divide are grossly important in the context of the sudden pandemic educational shift. According to Egbert and Yang (2004), rather than complaining about the existing tools, teachers need to learn how to exploit those, also in the more 'obsolete' or 'old' ways, to students' best advantage while the ways to obtain additional resources are looked for. Coming to terms with limited technology and designing low-tech but high-methodology learning designs seem to be crucial measures to cope with such emergency teaching contexts. Some new studies (e.g., Jalali *et al.*, 2020) show that flipped learning mediated via mobiles is a useful solution, however, it does not necessarily prove to be more effective than traditional learning. Switching grammar teaching to the online mode in an asynchronous self-study materials delivery (via mobile phones – Wang & Smith, 2013) may achieve success provided that (a) engaging learning materials are delivered that are neither too long nor overly demanding; (b) there is a proper degree of teacher monitoring; (c) student involvement is ensured; (d) incentives are provided; (e) student privacy is respected; and (f) a safe and secure mobile-learning technical environment is ensured.

2.4. Teacher literacies and skills for the emergency transition to online teaching

Preparation of teachers for a transition to technology-mediated teaching, or CALL teacher education, is a topic broadly researched in the literature. Studies have investigated, among others, approaches to and modes of instruction (Bauer-Ramazani, 2006, Egbert, 2006; Egbert and Shahrokni, 2019), characteristics of the training process (Kassen *et al.*, 2007; Kessler, 2006, 2007), the role of virtual communities in teacher training (Arnold *et al.*, 2007), Information and Communication Technologies (ICT) skills buildup as a prerequisite for second language (L2) teacher education (Desjardins and Peters, 2007). The end product of the training, teacher digital-pedagogical literacy, makes teachers ready and ensures smooth transition to online teaching. As indicated by Adnan (2018), there is a significant relationship between individual readiness and teaching satisfaction as readiness positively predicts satisfaction, and readiness is not only about digital preparedness, but, more importantly, competencies for online learning environments and active practice in real-life applications.

CALL pedagogies need to be anchored in some established learning theories, thus, sociocultural theory, constructivism, multimodality and new literacies (Felix, 2005; Hampel, 2006), ecological linguistics (Hoven and Palalas, 2011), structured cooperative learning (Awada and Burston, 2020) and inquiry-based technological model (Awada and Burston, 2020) have been proposed as solutions organizing curriculum development and informing task design. Moreover, approaches promoting autonomous learning and collaborative problem-solving are also crucial for effective acquisition of CALL teacher competences (Dooly, 2009) in the communicative learner-centred era (Richards, 2005). According to Richards (2005), proper technology-assisted instruction suggests that teachers approach this increasing challenge more as “designers” of effective and integrated learning rather than mere “transmitters” of skills or information through an add-on use of ICT.

As Meskill *et al.* (2020) report, in the earliest days of online teaching, educators duplicated textbooks, worksheets and their recorded lectures and posted these online as their “course.” Still, for some contexts (such as Content-Based Instruction as exemplified by Broadaway, 2011), such mirroring a textbook in the online mode might actually lead to enhanced learning, especially when more advanced functionalities of a Learning Management System (e.g., Moodle forums, database and assignments) are exploited to ensure social constructivist learning. However, it quickly became evident that it is impossible to directly transfer teaching practices from a live, bricks and mortar classroom to an online environment. Online course designers were quick to learn that the time, space and communication forums they had to work with were radically different from traditional classroom modes (Meskill *et al.*, 2020).

Mere “transmission of knowledge approach to training” fails to acknowledge and properly support the transformation of teachers’ identity that results in effective shift from traditional classroom-based teaching to online teaching (Comas-Quinn, 2011). This shift should go beyond the acquisition of ICT skills as it requires a pedagogical understanding of the affordances of the new medium and an acceptance by the teacher of his or her new role and identity.

Making the move to online teaching disrupts teachers’ pedagogical confidence (Jenkins, 2009), forces them to rethink roles and practices (Hall and Knox, 2009; Meskill and Sadykova, 2011; Richardson & Alsup, 2015), and requires adapting instructional routines to the peculiarities of digital environments (Compton, 2009; Dooly, 2013; Hampel and Stickler, 2005; Meskill and Anthony, 2014, 2015). A conscious and confident digital instructor, according to Meskill *et al.* (2020), needs to learn to appreciate authentic and multimodal affordances, find opportunities for tailored instruction/feedback, and stimulate the emergence of highly productive interactions with students, interactions otherwise not feasible in live classrooms. Obviously, both teachers’ and teacher educators’ positive attitudes towards CALL are needed to ensure successful instruction and the implementation of change in the curriculum (Dashtestani, 2014). Teachers’ positive attitudes towards CALL materials development help improve their teaching expertise, foster confidence, positive attitudes, and teaching efficiency (Tomlinson, 2003, 2012). Thus, the skills necessary for CALL

materials development should be included in English as a Foreign Language (EFL) teacher preparation programs (Dashtestani, 2014) together with the way teachers' digital mindsets established by everyday digital practices (Cummings Hlas *et al.*, 2017; Tour, 2015) influence activity design and lesson planning.

Content-wise, the previous studies still call for a need for digital literacy that goes beyond mere use of ready-made products ('consumer' culture) but that moves towards digital authoring ('maker' culture – Godwin-Jones, 2015). Similar calls have appeared over years (Chapelle and Hegelheimer, 2004; Godwin-Jones, 2015; Cote & Milliner, 2018), only the technologies advocated have changed – this seems to indicate a need for deeper technological knowledge and the ability to influence the products.

The way grammar/vocabulary teaching is to be assisted, supplemented or mediated by technology can vary significantly, depending on the degree of teacher's control over online instruction. This is best exemplified in Hampel and Stickler's 'pyramid model' with seven skill levels covering technical expertise, knowledge of the affordances, socio-affective skills and subject knowledge. The skills "build on one another, from the most general skills forming a fairly broad base to an apex of individual and personal styles" (Hampel and Stickler, 2005, p. 316), with lower-level skills achieved before the higher-level ones (Hauck and Stickler, 2006).

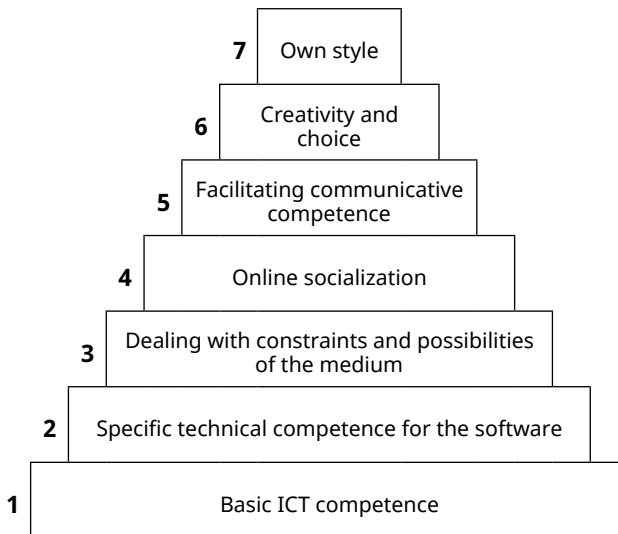


Figure 1. Skills pyramid (Hampel and Stickler, 2005).

According to Hampel and Stickler, the first level of competence relates to technological skills, the second and third level concern particular software applications used to teach languages with technology (e.g., Course Management Systems, Computer-Mediated Communication tools or production technologies), both in terms of making them functional and understanding their affordances and constraints. Further levels deal with the abilities to build interpersonal relations online (level 4 – 'online socialisation'), promoting social cohesion and enabling effective communication in the CMC mode (level 5 – 'facilitating

communicative competence'). The final two levels, similar to the first three, are universal no matter what particular technology or tool is to be used. Level 6 ('creativity and choice') encompasses innovative pedagogical applications of the selected technology, as well as the skill of evaluating and repurposing materials (Chapelle and Hegelheimer, 2004). The seventh and highest level of skills for online language teaching includes the ability to develop a "personal teaching style, using media and materials to their best advantage, forming a rapport with [the] students and using the resources creatively to promote active and communicative language learning" (Hampel and Stickler, 2005, p. 319).

Compton's 'Continuum of expertise' model (2009) originated primarily from a critique of Hampel and Stickler's 'Pyramid skills' model. Compton argues that the skills necessary for a teacher working in a technology-rich environment do not have to be acquired sequentially, but concurrently, that some of the levels (like acquiring specific technical competence and dealing with constraints and possibilities) actually merge together, and, finally, that it is unrealistic to expect that only the teacher who gets to the last level is ready to teach online. Not every teacher needs to achieve the expert level in all the areas in order to be a successful teacher – on the contrary, limited expertise in one area does not exclude greater proficiency and resulting sophistication of teaching in the others.

The spherical (rather than Stickler and Hampel's linearly pyramidal) model proposed by Hong (2010) shows the mutual influence of three areas of factors: CALL teacher education, individual teacher factors and contextual factors. As Hong (2010) advocates, since CALL teacher education is orbiting around the equator the center of the sphere, it indicates the relative importance of L2 teachers' technology integration compared to teachers' individual factors and contextual factors. On the other hand, teachers' individual factors are "orbiting slightly above the orbit of CALL teacher education, whereas the orbit of the contextual factors is further away from that of CALL teacher education" (p. 61), which means that teachers' individual factors (e.g., L2 teachers' general computer literacy skills or teachers' attitude toward and confidence in computer technology) are to a considerable extent influenced by teacher education, as opposed to contextual factors, which are relatively independent of it.

3. Methodology

3.1. *The aim of the study*

The aim of the current study was to investigate the shape of online grammar and vocabulary instruction administered by primary and secondary English language teachers in the Lublin and Rzeszów region during the COVID-19 lockdown period (March-June 2020). Apart from finding out the approaches, activities, tools and procedures used by teachers of their own accord, it was interesting to analyse their pedagogical practices with reference to previously existing approaches to technology-mediated grammar/vocabulary teaching:

Warschauer and Healey's stages of CALL, Puentedura's SAMR model and Hampel and Stickler's "skills pyramid" model.

The skills pyramid model has been used in the analysis despite much criticism it has encountered over recent years (e.g., Compton, 2009; Hong, 2010) since it closely corresponds to and aptly describes the teacher training framework in Poland. First, Polish student teachers have their IT/ICT competence developed (usually in IT classes run by an IT specialist – Hampel and Stickler's Stages 1 and 2), then they learn how to design computer-mediated teaching (this time instructed by language methodology instructors – Stage 3), after which comes teaching practice with their own experimentation of technology use guided by the school mentor (Stage 4). Further stages of the model, however, would appear in the course of in-service work or during in-service teacher development courses.

3.2. *The research corpus*

The research corpus compiled for the study was composed of lesson observations, interviews and lesson plans submitted in the practicum documentation by students of applied linguistics of Maria Curie-Skłodowska University. Altogether, the corpus comprised 40 individual cases, mainly primary (25) but also secondary (15) teachers of English, each described in a portfolio of materials submitted by student teachers as a requirement for teaching practicum. The whole volume of materials subjected to analysis in the current study amounted to around 1,200 pages.

In general, the student teachers were advised to try to collect the following kinds of materials which could be put under scrutiny in the present research. However, due to individual variation in the way COVID-era language education proceeded in different schools and the different amount of attention teachers devoted to their tutees, the eventual composition of materials in the corpus was as visible in Table 1.

Table 1. Composition of the research corpus

Kinds of resources	Number of cases
Observations of online lessons	35
Online lesson plans produced by student teachers (STs)	80
Interviews with school mentors (SMS)	80
Digital materials produced by STs	200

3.3. *Design and procedure*

This small-scale study covered the period of the first-COVID-stage educational lockdown, which in Poland spanned much of the 2019/2020 spring semester (from mid-March till end of June). The methodology used was content analysis, where secondary sources in the form of completed observation worksheets, interview schedules, lesson plans and digital resource packs produced



by students based on in-school learning were subject to researcher's examination and classification according to the models outlined before. The activities appearing during lessons were analysed for their compatibility with SAMR components, stages of CALL and Skills pyramid levels (1–7).

The research aimed at contrasting two viewpoints – that of school mentors exhibited in observations and interviews and that of student teachers evidenced in lesson plans and digital resource packs. Qualitative data were collected via extracting evaluative comments produced by STs and SMs.

3.4. Results and findings

As noted before, the data collected for the current study enabled investigation of the COVID-19 online grammar and vocabulary teaching from two perspectives – reality as reported by school mentors and ideal proposed by student trainees. The student perspective is represented in digital resource packs and online lesson plans; the teacher one in interviews.

3.4.1. School mentors' perspective – limitations and modes of online teaching. School mentors reported a number of problems and obstacles to smooth and effective grammar/vocabulary teaching in the online mode. Mentors are usually seasoned teachers, with significant job seniority and experience in dealing with different kinds of students. Hence, it is quite likely that they have already developed their own teaching style, though they may lack some of the IT background or computer-mediated teaching methodology due to taking their training years ago. As some of our previous research shows (Krajka, 2012), the quality of ICT training in Polish pre-service programs is rather stereotypically limited to word-processing, internet browsing, emailing and PowerPoint design, which did not prove sufficient for the challenges of the COVID-era distance education.

The problems mentioned by mentors could refer to different spheres of distance instruction, however, the ones related to students, class management or lesson design are more salient than those pertaining to technical issues. Some of the most frequently mentioned ones were as follows:

- ▶ Ss' lack of concentration and demotivation, especially during grammar presentation;
- ▶ misbehaviour issues – Ss turning cameras off, muting microphones, saying unwanted/insulting comments unasked, interrupting teacher talk, eating, using mobile phones;
- ▶ technical problems – weak connection, unavailable computers, too-old operating systems, problems with software versions (e.g., outdated word processors preventing opening documents), sound quality problems, synchronous class breakdowns, problems with launching/playing audio/video files by Ss, server overload;
- ▶ problems with delivering feedback, administering assessment, monitoring Ss' individual work;

- ▶ problems with organising pair and group work in so-called breakout rooms, monitoring Ss' work in smaller rooms, moving between them;
- ▶ difficulties with activating lazier/more withdrawn/less able students, checking whether slower students are following the lesson or got lost on the way, ensuring Ss' independent work;
- ▶ physical fatigue due to spending too much time in front of a computer;
- ▶ much greater time consumption of materials development and dealing with technicalities;
- ▶ time management during grammar lessons – too much class time spent on organising and explaining, too little on practice;
- ▶ impossible to teach some aspects of vocabulary effectively online (pronunciation) due to lack of effective mouth presentation;
- ▶ insufficient Ss' self-management skills – difficulties with managing online learning duties from as many as 13 school subjects, forgetting about deadlines;
- ▶ home and family problems – difficulties with access to computer in multi-child families, inappropriate behaviour of other family members, parents not allowing online learning but engaging children in household duties at that time.

The actual format of online teaching, from the school mentors' perspective, very much depended on the school policy (which was determined internally by the principal). Primary school teachers, generally, reported using synchronous lessons at upper primary level (grades 7–8, some from grades 4–6), while grades 1–3 followed the asynchronous mode of learning vocabulary and grammar by getting instructions, assignments, links to Padlet/Wordwall/islcollective.com/Quizziz authoring materials, Quizlet vocabulary sets, YouTube videos. Whenever synchronous teaching was allowed and some platform was approved for school use (most usually, Microsoft Teams or Zoom), teachers mainly employed the whole-class, presentation-based mode of teaching. In particular, the following stages were used:

- ▶ whole-class warm-up discussions;
- ▶ Ss reading text from coursebooks;
- ▶ T asking if they understand;
- ▶ if necessary, using chat used to give additional explanation;
- ▶ showing the book's page on the shared screen;
- ▶ playing YouTube video clips to the whole class;
- ▶ giving students interactive quizzes, games, tests to complete (either individually during class time or as homework).

Some teachers experimented with Zoom's breakout rooms, which enabled putting students into smaller groups for discussion tasks. This was implemented by those secondary school teachers who were better skilled at technology and who did not fear losing control over the students in smaller rooms or during pair/groupwork.

The interviews with mentors evidence lack of applicability of plain

hierarchical arrangement of distance teaching skills put forward by Hampel and Stickler in their skills pyramid model. Even though the mentors had already developed their own teaching style, also enhanced by technologies (the ones they were familiar with and in full control of), the COVID-19 emergency teaching exposed a number of gaps and shortcomings in their technical expertise. Hence, one cannot assume that the IT competence is gained once for a lifetime, but rather constant renewal of technical expertise is needed in the form of in-service teacher development to make those seasoned instructors ready for such unexpected challenges.

3.4.2. Student teachers' perspective – activities designed and tools selected for online teaching. The contexts from which student teachers' data were sampled varied quite a lot as not everywhere STs were actually allowed to teach or co-teach any of those online lessons. In the first stage of pandemic teaching (March-June 2020) they were, luckily, allowed to serve their teaching practices online and observe online lessons, which was not that frequent in the second round of pandemic teaching in Poland (October-December 2020).

The lessons planned by student teachers clearly followed the well-established lesson formats (Scrivener, 1994; Harmer, 1998; Thornbury, 1999) – Presentation-Practice-Production (PPP) for grammar and vocabulary instruction, pre-while-post and Engage-Study-Activate (ESA) for receptive and productive skills work. Student teachers' lack of awareness of limitations of the reality of online teaching as enumerated above resulted in planning instruction in a way that would be methodologically correct, however, not necessarily feasible in technology-mediated instruction.

Quite predictably, materials developed by students showed use of ready-made resources to a considerable extent. What is important is that most of them were of high credibility, taken from British Council LearnEnglish sites (both in the kids and teens version). This seems to indicate that it was not only graphic appeal but also site authority that was taken into account while evaluating ready-made materials for in-class use.

On the other hand, student teachers excelled at supplementing those regularly planned lessons with authoring digital materials of high levels of interactivity. Student engagement applications, such as Kahoot or Mentimeter, were also used in lesson plans, though less frequently than close-ended vocabulary and grammar materials. Some innovative applications going beyond those two major uses were Piliapp dice throwing app, Classroomscreen random nomination site for appointing students to talk and Linoit.com sticky board for class brainstorming.

However, one should not jump to a premature conclusion that due to lack of teaching and greater time available student teachers' lessons could be made more appealing and making a better use of computer affordances. STs were busy preparing interactive materials for their mentors, observing online lessons, assisting with correcting students' written works. Moreover, they were required to compensate for some components that were impossible

to execute (e.g., individual teaching) with a greater amount of duties in other work categories.



4. Discussion

The present study evidenced that in an emergency educational situation as was the case with the sudden shift from F2F to online instruction due to COVID-19 lockdown, teachers find it easiest to teach by trying to mirror in-class learning in the online mode. Whenever it was made possible, the participants of the study tried to teach synchronously online, mainly via Zoom, doing their best to provide students with the same kind of experience they would get in a regular classroom. This was evidenced in the attempts to set up pair/group work activities in breakout rooms or vocabulary/grammar presentations, mindmaps or vocabulary brainstorming through screen sharing. Obviously, it was not that easy to organise and manage (especially group work in separate breakout rooms), however, teachers were still ready to take up the challenge. Thus, when reflecting on Puentedura's SAMR framework, it is clearly visible that whenever possible, teachers opted for Substitution, with some use of Augmentation. This trend was also visible in lesson plans prepared by trainees – they were actually quite determined to plan and conduct lessons in the way that was recommended/instructed in classes before the pandemic. If not possible within Zoom, trainees were looking for other, external tools that could provide the same kind of language learning experience.

On the other hand, whenever synchronous grammar and vocabulary teaching was not possible due to technical limitations on the part of the school, the teacher or the students, or it was not the agreed mode of work for a particular school, the teachers clearly went into more sophisticated forms of the SAMR model. Modification of instruction, Reformulation of specific parts of lessons, flipping the classroom by preparing and sending grammar explanations together with interactive materials were the most frequent ways of adapting instruction to the asynchronous mode. Very few teachers (2 out of 42) reported the use of an e-learning platform (here, Google Classroom), which could manage asynchronous learning, provide timing, sequencing and assessment. The eventual choice of the transposition of instruction from face-to-face to online mode was conditioned by the familiarity with the platforms (luckily, rapidly growing over the first round of pandemic teaching, relatively well-established in the second round). Without confidence in the use of new tools it is unrealistic to expect more advanced forms of learning design, such as Modification or Reformulation. Hence, predominant use of Substitution activities was the natural (and effective) response to the emergency teaching situation encountered by quite a few teachers.

The analysis of lesson plans, interviews and digital materials created by both student teachers and school mentors showed that most materials were close-ended and focused on discrete items of grammar and vocabulary, hence, corresponding to the behaviourist view. Even though this approach was at its heyday some 40 or 50 years ago, repetition is still an indispensable part

of language learning, especially at the primary level. Predominant focus on behaviourist-style learning patterns exhibited by the analyzed corpus reflected primary students' learning needs. Thanks to more appealing graphics, greater interactivity, animations and multimedia integration the digital materials from the corpus were highly effective. Therefore, the COVID-19 era showed the effectiveness of the blend of behaviourist and integrated approaches to technology use in the classroom. At the same time, many lesson plans exhibited some traces of Communicative CALL, especially by providing online materials as stimulus for listening, reading and speaking, as well as by organising oral tasks in smaller breakout rooms. On the other hand, there were virtually no activities that could be attributed to the connectivist approach – most probably, even though exploiting the social dimension of instruction could bring about significant learning benefits, due to difficulties with organising and managing group work at a distance teachers refrained from implementing such lessons.

Finally, the interviews with teachers highlighted their attitudes towards online teaching, the perception of advantages and drawbacks, the problems encountered and the solutions implemented. Indirectly, the interviews aimed at examining at which stage of the skills pyramid (Hampel and Stickler, 2005) teachers seemed to exist and what kind of training would need to be provided to make their online teaching more effective. Initially, right after the lockdown, many teachers were struggling at level 1 (“Basic ICT competence”) to arrive at level 2 (“Specific technical competence”). This self-made training went alongside acquiring skills at higher levels of the pyramid model, as the gaps in competence at lower levels went together with enhanced skills at higher levels (mainly communicative competence and own teaching style) which were acquired through years of experience. Hence, it is clear how lower level skills can be overwritten by higher level teaching expertise. At the same time, due to school and community policies, parental expectations or technical restrictions, teachers' competence building was not a straightforward process of going up by consolidating skills at a lower level. Instead, teachers showed confidence in some selected areas, certain preferred lesson patterns or useful tools. They seemed to go up and down the pyramid, which again puts its linear ordering into question.

Towards the end of the first stage of the pandemic teaching (March-June 2020) most teachers got to level 3, “Awareness of constraints and possibilities,” which was visible in how they knew what teaching devices are missing or how to make the best use of the multimodality of the medium by combining text chat with audio (e.g. for giving simultaneous written feedback without interrupting the student's oral contribution). Few instructors investigated in the study moved to the higher levels – “Online socialisation,” “Facilitating communicative competence,” “Creativity, choice/selection.” The ultimate level of Hampel and Stickler's Skills pyramid, “Development of own style,” is obviously most wanted, however, it needs to gradually emerge. What seems necessary here is not only time, but also training support (which was so severely missing in many contexts), good practice examples, and intrinsic motivation to develop it. In the first phase of the COVID-19 lockdown-era tutors perceived distance

teaching too much as an emergency solution, implemented temporarily rather than permanently. Due to a sudden shift to the online mode they were not provided with necessary training and support, which might have led to a feeling of helplessness or loss. The individual style of teaching emerges with increasing familiarity with the medium and growing confidence on lower skill levels, however, shifts in e-learning tools (e.g., from Zoom to Teams) or lack of a state-endorsed e-learning platform obstructed this natural process.

It is not the point of the present study to juxtapose the two groups of teachers (pre-service and in-service) since they have different characteristics and duties in the instructional process. Student teachers were clearly supposed to play a supportive role for their mentors, by providing assistance in digital materials development, designing lesson plans, solving technical problems or supporting weaker students during online lessons. The evidence from the corpus (especially student teachers' evaluations) shows how the two groups of teachers with such diverse characteristics can possibly work together compensating for each other's shortcomings and exploiting strengths.

The second phase of the pandemic distance teaching (October-January 2020) solved at least some of these problems – there was some state support in terms of equipment money allowance for teachers, provision of facilities for schools and development of a common collaborative platform. Clearly, the second round of teaching (which, luckily, came after 2 months of face-to-face instruction) was much more anticipated by teachers, school administration and parents, which made distance teaching more effective.

Finally, when comparing the first and the second round of pandemic teaching, it seems the emergency teaching experience has resulted in making many language teachers either (partially or fully) skilled, or at least aware of, the following competences:

- ▶ managing students in a selected online learning environment,
- ▶ setting up classes,
- ▶ arranging breakout rooms,
- ▶ managing video, voice and chat channels,
- ▶ using screensharing for presentation and feedback-giving,
- ▶ setting up events and organising delivery of student assignments.

These skills are of a mainly technical nature and their acquisition, together with some improvement as regards teacher equipment, resulted in a better shape of the COVID-era instruction during the second round of pandemic teaching. However, the problems on the part of students, both technical and psychological, remained, as solving them demands more serious and systematic action than just a certain equipment money allowance from the state.

5. Conclusion

The COVID-19 Spring 2020 lockdown changed the shape of language education in Poland to a great extent. Virtually overnight, schools and teachers had to find their own ways of teaching online, with little support, forced to experiment

on their own, permeated by feelings of loss, helplessness and unwillingness to make the most of online teaching.

The current study showed the applicability of well-established approaches to technology-enhanced grammar and vocabulary instruction (phases of CALL, SAMR and Skills pyramid) in explaining whatever was happening in Polish language education in the summer term of 2019/2020. Due to the emergency character of shift to online teaching, it is quite understandable that tutors tried to mirror the traditional instruction in the synchronous teaching (Substitution). Whenever this happened to be impossible, augmentation of instruction, enrichment of close-ended behaviourist quizzes and worksheets with multimedia was supposed to motivate students and ensure effective instruction.

The online teaching during lockdown showed how important appropriate teacher training is – not only within the domain of technical competence (even more advanced aspects of it), but, more importantly, harnessing selected tools to fit one's own teaching style. It is only after gaining confidence in using tools that one's own technology-mediated teaching style can actually be expected to appear. However, it is more than clear that IT competence is not gained once for a lifetime, and constant updating of digital expertise through in-service teacher development is a prerequisite for successful online teaching. Luckily, as was evidenced by the study, in many cases the fact that experienced teachers had their own teaching style developed helped them “survive” and compensate for gaps in technical expertise.

Hopefully, the online teaching experiment will inspire authorities to redefining teacher education standards in terms of ICT competence requirements and will result in making technology-mediated teaching a more prominent topic in the teacher development curriculum. The first signs of this reflection were already visible during the second round of pandemic teaching (Autumn 2020). Hopefully, the whole COVID-19 teaching experience will have a long-lasting effect on the quality of teacher education and the teachers' ability to shift modes of instruction from face-to-face through blended to online more and more effortlessly.

6. References

- Adnan, M. (2018). Professional development in the transition to online teaching: The voice of entrant online instructors. *ReCALL*, 30(1), 88–111. <https://doi.org/10.1017/S0958344017000106>
- Arifani, Y., Hidayat, N., Mulyadi, D., & Wardhono, A. (2020). Enhancing EAP learners' vocabulary acquisition: An investigation of individual SMS-based reporting activities. *Teaching English with Technology*, 20(5), 125–146.
- Arnold, N., Ducate, L., & Lomicka, L. (2007). Virtual communities of practice in teacher education. In M. A. Kassen, R. Z. Lavine, K. Murphy-Judy & M. Peters (Eds.), *Preparing and developing technology-proficient L2 teachers* (pp. 103–132). San Marcos, TX: CALICO.

- Awada, G., & Burston, J. (2020). Effect of learner proficiency levels on methodological effectiveness: Case of STAD and WebQuest (STADIBTM). *Teaching English with Technology*, 20(2), 63–84.
- Azama, Y. (2015). *Effective integration of technology in a high school beginning Japanese class*. Unpublished MA Thesis. Monterey Bay, California State University.
- Bataineh, R. F., & Mayyas, M. B. (2017). The utility of blended learning in EFL reading and grammar: A case for Moodle. *Teaching English with Technology*, 17(3), 35–49.
- Bauer-Ramazani, C. (2006) Training CALL teachers online. In P. Hubbard & M. Levy (eds.), *Teacher Education in CALL* (pp. 183–200). Philadelphia, PA: John Benjamins Publishing Company.
- Bax, S. (2003). CALL – past, present and future. *System*, 31, 13–28.
- Baytiheh, H. (2018). Online learning during post-earthquake school closures. *Disaster Prevention and Management*, 27(1), 215–227.
<https://doi.org/10.1108/DPM-07-2017-0173>
- Broadaway, R. (2011). Content-based instruction using Moodle: Creating a website to mirror and enhance a print textbook. *The JALT CALL Journal*, 7(3), 335–349. <https://doi.org/10.29140/jaltcall.v7n3.126>
- Burston, J. (2014). A survey of MALL curriculum integration: What the published research doesn't tell. *CALICO Journal*, 31(3), 303–322.
- Cabrera, P., Castillo, L., Gonzalez, P., Quiñónez, A., & Ochoa, C. (2018). The impact of using Pixton for teaching grammar and vocabulary in the EFL Ecuadorian context. *Teaching English with Technology*, 18(1), 53–76.
- Chambers, A., & Bax, S. (2006). Making CALL work: towards normalisation. *System*, 34, 465–479.
- Chapelle, C. (2001). *Computer applications in second language acquisition*. Cambridge: Cambridge University Press.
- Chapelle, C. & Hegelheimer, V. (2004). The English language teacher in the 21st century. In S. Fotos & C. Browne (Eds.), *New perspectives in CALL for second language classrooms* (pp. 299–316). Mahwah, NJ: Laurence Erlbaum.
- Comas-Quinn, A. (2011). Learning to teach online or learning to become an online teacher: An exploration of teachers' experiences in a blended learning course. *ReCALL*, 23(3), 218–232.
<https://doi.org/10.1017/S0958344011000152>
- Compton, L. K. L. (2009). Preparing language teachers to teach language online: a look at skills, roles, and responsibilities. *Computer Assisted Language Learning*, 22(1), 73–99.
- Cote, T., & Milliner, B. (2018). A survey of EFL teachers' digital literacy: A report from a Japanese university. *Teaching English with Technology*, 18(4), 71–89.
- Cummings Hlas, A., Conroy, K., & Hildebrandt, S. A. (2017). Student teachers and CALL: Personal and pedagogical uses and beliefs. *CALICO Journal*, 34(3), 336–354. <https://doi.org/10.1558/cj.26968>



- Dashtestani, R. (2014). EFL teachers' knowledge of the use and development of Computer-Assisted Language Learning (CALL) materials. *Teaching English with Technology*, 14(2), 3–27.
- Davies, G. (2002). ICT and Modern Foreign Languages: learning opportunities and training needs. *International Journal of English Studies*, 2(1), 1–18.
- De Ridder, I. (2002). Visible or invisible links: Does the highlighting of hyperlinks affect incidental vocabulary learning, text comprehension and the reading process? *Language Learning & Technology*, 6(1), 123–146. <http://llt.msu.edu/vol6num1/deridder/>
- Desjardins, F., & Peters, M. (2007) Single-course approach versus a program approach to develop technological competence in preservice language teachers. In M. A. Kassen, R. Z. Lavine, K. Murphy-Judy & M. Peters (Eds.), *Preparing and Developing Technology-Proficient L2 Teachers* (pp. 3–21). San Marcos, TX: CALICO.
- Dhawan, Sh. (2020). Online learning: A panacea in the time of COVID-19 crisis. *Journal of Educational Technology System*, 49(1), 5–22.
- Dizon, G. (2016). Quizlet in the EFL classroom: Enhancing academic vocabulary acquisition of Japanese university students. *Teaching English with Technology*, 16(2), 40–56.
- Djiwandono, P. I. (2020). How SAMR-based vocabulary teaching shapes vocabulary learning strategies. *Teaching English with Technology*, 20(4), 41–58.
- Dooly, M. (2009). New competencies in a new era? Examining the impact of a teacher training project. *ReCALL*, 21(3), 352–369. <https://doi.org/10.1017/S0958344009990085>
- Dooly, M. (2013). Focusing on the social: Research into the distributed knowledge of novice teachers in online exchange. In C. Meskill (Ed.), *Online teaching and learning: Sociocultural perspectives. Advances in digital language learning and teaching* (pp. 137–155). London: Bloomsbury Academic.
- Egbert, J. (2006) Learning in context: Situating language teacher learning in CALL. In P. Hubbard & M. Levy (Eds.), *Teacher education in CALL* (pp. 167–181). Philadelphia, PA: John Benjamins Publishing Company.
- Egbert, J. L., & Shahrokni, S. A. (2019). Balancing old and new: Integrating competency-based learning into CALL teacher education. *The JALT CALL Journal*, 15(1), 3–18.
- Egbert, J., & Yang, Y. (2004). Mediating the digital divide in CALL classrooms: Promoting effective language tasks in limited technology contexts. *ReCALL*, 16(2), 280–291. <https://doi.org/10.1017/S095834400400032>
- Felix, U. (2005). E-learning pedagogy in the third millennium: The need for combining social and cognitive constructivist approaches. *ReCALL*, 17(1), 85–100. <https://doi.org/10.1017/S0958344005000716>
- Godwin-Jones, R. (2015). The evolving roles of language teachers: Trained coders, local researchers, global citizens. *Language Learning & Technology*, 19(1), 10–22.
Retrieved from <http://llt.msu.edu/issues/february2015/emerging.pdf>

- Grgurović, M. (2012). Blended learning in an ESL class: A case study. *CALICO Journal*, 29(1), 100–117.
- Hall, D., & Knox, J. (2009). Issues in the education of TESOL teachers by distance education. *Distance Education*, 30(1), 63–85.
- Hamilton, E. R., Rosenberg, J. M., & Akeoglu, M. (2016). The Substitution Argumentation Modification Redefinition (SAMR) model: A critical review and suggestions for its use. *TechTrends: Linking Research and Practice to Improve Learning*, 60(5), 433–441.
- Hampel, R. (2006). Rethinking task design for the digital age: A framework for language teaching and learning in a synchronous online environment. *ReCALL*, 18(1), 105–121. <https://doi.org/10.1017/S0958344006000711>
- Hampel, R., & Stickler, U. (2005). New skills for new classrooms: Training tutors to teach languages online. *Computer Assisted Language Learning*, 18(4), 311–326.
- Harmer, J. (1998). *How to teach English: An introduction to the practice of English language teaching*. Harlow: Longman.
- Hauck, M., & Stickler, U. (2006). What does it take to teach online? *CALICO Journal*, 23(3), 463–475.
- Hong, K. (2010). CALL teacher education as an impetus for L2 teachers in integrating technology. *ReCALL*, 22(1), 53–69. <https://doi.org/10.1017/S095834400999019X>
- Hoven, D., & Palalas, A. (2011). (Re)conceptualizing design approaches for mobile language learning. *CALICO Journal*, 28(3), 699–720. <https://doi.org/10.1558/cj.28.3.699-720>
- Hsu, H.-T. (2018). Incidental professional vocabulary acquisition of EFL business learners: Effect of captioned video with glosses. *The JALT CALL Journal*, 14(2), 119–142.
- Huang, H.-T., & Liou, H.-C. (2007). Vocabulary learning in an automated graded reading program. *Language Learning & Technology*, 11(3), 64–82. <http://llt.msu.edu/vol11num3/huangliou/>
- Hughes, J. E., & Scharber, C. (2008). Leveraging the development of English-technology pedagogical content knowledge within the deictic nature of literacy. In AACTE's Committee on Innovation and Technology (Eds.), *Handbook of technological pedagogical content knowledge for educators* (pp. 87–106). Mahwah, NJ: Laurence Erlbaum.
- Jenkins, H. (2009). *Confronting the challenges of participatory culture: Media education for the 21st century*. Cambridge, MA: MIT Press.
- Karakas, A., & Saricoban, A. (2012). The impact of watching subtitled animated cartoons on incidental vocabulary learning of ELT students. *Teaching English with Technology*, 12(4), 3–15.
- Kassen, M. A., Lavine, R. Z., Murphy-Judy, K., & Peters, M. (Eds.) (2007). *Preparing and developing technology-proficient L2 teachers*. San Marcos, TX: CALICO.



- Kessler, G. (2006) Assessing CALL teacher training: What are we doing and what could we do better? In P. Hubbard & M. Levy (Eds.), *Teacher education in CALL* (pp. 23–42). Philadelphia, PA: John Benjamins Publishing Company.
- Kessler, G. (2007) Formal and informal CALL preparation and teacher attitude toward technology. *Computer Assisted Language Learning*, 20(2), 173–188.
- Krajka, J. (2010). Matching large mixed-ability classes with reality. In J. Egbert (Ed.), *CALL in limited technology contexts* (pp. 119–134). San Marcos, TX: CALICO.
- Krajka, J. (2012). *The language teacher in the digital age*. Lublin: Maria Curie-Skłodowska University Press.
- Lee, H., Warschauer, M., & Lee, J. H. (2017). The effects of concordance-based electronic glosses on L2 vocabulary learning. *Language Learning & Technology*, 21(2), 32–51.
<http://llt.msu.edu/issues/june2017/leewarschauerlee.pdf>
- Leong, A. C. H., Abidin, M. J. Z., & Saibon, J. (2019). Learners' perceptions of the impact of using digital storytelling on vocabulary learning. *Teaching English with Technology*, 19(4), 3–26.
- Li, Z., & Hegelheimer, V. (2013). Mobile-assisted grammar exercises: Effects of self-editing in L2 writing. *Language Learning & Technology*, 17(3), 135–156.
<http://llt.msu.edu/issues/october2013/lihegelheimer.pdf>
- Liu, P. L. (2016). Mobile English vocabulary learning based on concept-mapping strategy. *Language Learning & Technology*, 20(1), 128–140.
Retrieved from <http://llt.msu.edu/issues/october2016/liu.pdf>
- Marinov, S. (2013). Training ESP students in corpus use – challenges of using corpus-based exercises with students of non-philological studies. *Teaching English with Technology*, 13(4), 49–76.
- Mayer, R. E. (2001). *Multimedia learning*. New York: Cambridge University Press.
- McLean, S., Hogg, N., & Rush, T. W. (2013). Vocabulary learning through an online computerized flashcard site. *The JALT CALL Journal*, 9(1), 79–98.
- Meskill, C., & Anthony, N. (2014). Managing synchronous polyfocality in new media/new learning: Online language educators' instructional strategies. *System*, 42, 177–188.
- Meskill, C., & Anthony, N. (2015). *Teaching Languages Online*. Clevedon: Multilingual Matters.
- Meskill, C., Anthony, N., & Sadykova, G. (2020). Teaching languages online: Professional vision in the making. *Language Learning & Technology*, 24(3), 160–175. <http://hdl.handle.net/10125/44745>
- Meskill, C., & Sadykova, G. (2011). Introducing EFL faculty to online instructional conversations. *ReCALL*, 23(3), 200–217.
- Levy, M., & Stockwell, G. (2006). *Options and Issues in Computer-Assisted Language Learning*. Mahwah, NJ: Laurence Erlbaum.
- Puentedura, R. (2006). Transformation, technology, and education. [Blog post]. Retrieved from <http://hipassus.com/resources/tte>



- Ramezanali, N., & Faez, F. (2019). Vocabulary learning and retention through multimedia glossing. *Language Learning & Technology*, 23(2), 105–124. <https://doi.org/10.125/44685>
- Richardson, J., & Alsup, J. (2015). From the classroom to the keyboard: How seven teachers created their online teacher identities. *The International Review of Research in Open and Distributed Learning*, 16(1), 142–167.
- Romrell, D., Ridder, L., & Wood, E. (2014). The SAMR Model as a framework for evaluating mlearning. *Journal of Asynchronous Learning Network*, 18(2), 1–14.
- Ross, A., Li, J., & Gunter, A. M. (2018). Learning Chinese in the digital age. In S. C. Wang & J. K. Peyton (Eds.), *CELIN Briefs Series* (pp.1–15). New York: Asia Society.
- Sagarra, N., & Zapata, G. (2008). Blending classroom instruction with online homework: A study of student perceptions of computer-assisted L2 learning. *ReCALL*, 20(2), 208–224. <https://doi.org/10.1017/S0958344008000621>
- Sato, T., Murase, F., & Burden, T. (2020). An empirical study on vocabulary recall and learner autonomy through mobile-assisted language learning in blended learning settings. *CALICO Journal*, 37(3), 254–276. <https://doi.org/10.1558/cj.40436>
- Scida, E. E., & Jones, J. N. (2016). New tools, new designs: A study of a redesigned hybrid Spanish program. *CALICO Journal*, 33(2), 174–200. <https://doi.org/10.1558/cj.v33i2.26053>.
- Scrivener, J. (1994). *Learning teaching*. Oxford: Macmillan Heinemann.
- Simanjuntak, R. R. (2020). Learning specific academic vocabulary using MALL: Experience from Computer Science students. *Teaching English with Technology*, 20(5), 87–107.
- Stracke, E. (2007). A road to understanding: A qualitative study into why learners drop out of a blended language learning (BLL) environment. *ReCALL*, 19(1), 57–78. <https://doi.org/10.1017/S0958344007000511>
- Thornbury, S. (1999). Lesson art and design. *ELT Journal*, 53(1), 4–11.
- Tomlinson, B. (2003). Developing materials to develop yourself. *Language Learning*, 5(4). Retrieved from <http://www.hlomag.co.uk/jul03/martjul031.rtf>
- Tomlinson, B. (2012). Materials development for language learning and teaching. *Language Teaching*, 45(2), 143–179.
- Tour, E. (2015). Digital mindsets: Teachers' technology use in personal life and teaching. *Language Learning & Technology*, 19(3), 124–139. Retrieved from <http://llt.msu.edu/issues/october2015/tour.pdf>
- Trinder, R. (2016). Blending technology and face-to-face: Advanced students' choices. *ReCALL*, 28(1), 83–102. <https://doi.org/10.1017/S0958344015000166>
- Wang, S., & Smith, S. (2013). Reading and grammar learning through mobile phones. *Language Learning & Technology*, 17(3), 117–134. <http://llt.msu.edu/issues/october2013/wangsmith.pdf>



- Warschauer, M. (1996). Computer-assisted language learning: An introduction. In S. Fotos (Ed.), *Multimedia language teaching* (pp. 3–20). Tokyo: Logos International.
- Warschauer, M., & Healey, D. (1998). Computers and language learning: An overview. *Language Teaching*, 31, 57–71.
- Yanguas, I. (2009). Multimedia glosses and their effect on L2 text comprehension and vocabulary learning. *Language Learning & Technology*, 13(2), 48–67.
Retrieved from <http://llt.msu.edu/vol13num2/yanguas.pdf>
- Yoshii, M. (2006). L1 and L2 glosses: Their effects on incidental vocabulary learning. *Language Learning & Technology*, 10(3), 85–101.
Retrieved from <http://llt.msu.edu/vol10num3/yoshii>

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