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ANITA BUCZEK-ZAWIŁA

ENRICHING THE LINGUISTIC CONCEPT DEVELOPMENT OF ENGLISH UNDERGRADUATES THROUGH COVID-INDUCED BLENDED LEARNING PRACTICES: A DESIGN-BASED RESEARCH PERSPECTIVE

INTRODUCTION

University education in the modern society of the 21st century seeks to deliver courses (and degrees) that are relevant to students and tailored to their learning capabilities and skills. It frequently involves modifying not so much the course's content, as that revolves around the fundamental concepts the students must acquire, but rather the pedagogical methodologies and procedures. These need to be conducive to learning in the fast changing world of technological advancement and quick unexpected changes in the external settings and conditions. Traditional teacher-led classrooms and courses often fail to take advantage of students' tech-comfiness or tech-savviness, which must be perceived as wasting massive potential.

Design-based learning, on the other hand, is a methodology employing pedagogical insights of problem-based learning (Gómez Puente et al., 2013; Chen & Yang, 2019). It engages students in developing a better understanding of the proposed concepts through participating in providing a solution to a designated problem or task. It is thus believed to enhance students' imagination, creativity and talents, at the same time improving higher order thinking, systematizations and understanding, together with developing their collaborative skills (Azizan

ANITA BUCZEK-ZAWIŁA, PhD, Pedagogical University of Kraków, Institute of English Studies, Department of English Linguistics; e-mail: anita.buczek-zawila@up.krakow.pl; ORCID: https://orcid.org/0000-0002-4179-0219.

& Abu Shamsi, 2022). It does so by relying on processes of inquiry and reasoning when trying to solve designated problems while reflecting on the learning process (Gómez Puente et al., 2013; Gómez Puente, 2021).

Similar benefits have been noticed with the adoption of technological solutions and advancements through the affordances offered, among others, by flipped learning. These produce engagement in active class activities, increased student performance, facilitative contributions of peers and instructors as well as strengthened course designs (Hung, 2017), while promoting collaborative learning and self-discipline, as applied for STEM (science, technology, engineering and mathematics),[1] second language learning and social humanities education (SHE) (Jong et al., 2022). These aspects came to the fore with the COVID-19-related challenges to educational reality.

> Most recently, the COVID-19 pandemic has put digital literacies at the heart of all learning. With schools closed, travel and study abroad curtailed, policies of separation and enclosure enacted, digital technologies have allowed people to stay in touch, to learn from one another, and to keep abreast of what is happening in other parts of the world. (Kern, 2021, p. 134)

The digitalisation of education has been noticeably accelerated by the recent COVID-19 pandemic of 2020, to the effect that there is an increasing trend to expand the degree of online modes presence in higher education, frequently in collaboration with more traditional modes (Joshi & Kantola, 2022). Incorporating the affordances offered by technology and combining them with design-based learning becomes a desirable practice.

The purpose of this paper is therefore twofold. First we want to use several ideas related to student learning in undergraduate contrastive phonetics and phonology classes[2] as an example of design-based blended learning geared towards developing specific concepts and metalinguistic knowledge. Secondly, the aim is to show how Design-Based Learning and Research (DBL and DBR) can extend and enrich student learning experience, by exploring the challenges inherent in the implementation of COVID-induced class procedures and their effect for the post-COVID instructional approach. The reason for following the DBR methodology is the belief that through its implementation and due to its participatory nature, improvement in one outcome may potentially facilitate improvement in other outcomes when exploring complex educational contexts (Martínez-Álvarez &

[1] See, among others Scott et al. (2020); Azizan and Abu Shamsi (2022); Tammeleht (2022); Gómez Puente (2021).

[2] The classes have been developed and run every academic year for the English Studies students, first cycle, at the Pedagogical University of Kraków, henceforth PUK for convenience.

Bannan, 2013; Alghamdi & Li, 2013). The methodology was chosen because of its proven efficiency in creating technology-enhanced learning environments (Wang & Hannafin, 2005).

After this introduction, the rest of the paper is organised as follows. The next sections will elaborate on the related works that framed and shaped design-based learning and research, to be followed by explaining the formula of blended-learning. Then, the course design itself, the instructional interventions, findings, implications and limitations are discussed, in this sequence. The paper closes with concluding remarks and suggests further studies stemming from the present work.

1. RELATED WORK AND BACKGROUND

1.1 Design-based learning and design-based research

Design-Based Learning (DBL) has been introduced as a constructivist learning approach in which students encounter a challenge and attempt a solution individually and/or in small groups using the previously acquired knowledge (Zhang et al., 2022; Gómez Puente et al., 2013). The learning is affected by the context in which the concepts are taught, as well as by the students' beliefs and attitudes. "It highlights the importance of producing or engaging in designing activities as a means of learning," and "offers a valuable learning environment," which together results in the appreciation of both the learning process and its outputs or products (Azizan & Abu Shamsi, 2022, p. 2). By following the specific phases in a sequence (e.g., insights, investigation, ideation, and implementation) students experience and acquire the concept and knowledge (Zhang et al., 2022; Bekker et al., 2015). The numerous benefits of DBL at various levels and contexts of education have been researched widely, they have also shown that students improve their systems thinking, transdisciplinary activities, and collaborative skills (Azizan & Abu Shamsi, 2022, p. 1).[3] The typical characteristic of DBL that appears relevant to the present paper is the underscored significance of critical instructional elements implemented in a successful DBL course (Bekker et al., 2015; Scheltenaar et al., 2015; Azizan & Abu Shamsi, 2022). Elements that are believed to be of major significance are the teacher's role of coach (Gómez Puente et al., 2013; Joshi & Kantola, 2022; Jong et al., 2022), reflection (Tammeleht, 2022), collaboration in teamwork and self-sufficiency (Bekker et al., 2015; Gómez Puente et al., 2013), adjustment to learners' needs and skills, e.g.,

[3] The extensive reviews of the DBL benefits can be found in Gómez Puente et al. (2013), Azizan and Abu Shamsi (2022), and Zhang et al. (2022).

digital literacy (Scheltenaar et al., 2015; Kern, 2021; Martínez-Álvarez & Bannan, 2013), and the broad instructional design perspective with the support for the dynamic processes of designing and inquiry practices. The investigations have revealed empirically that DBL supports the enhancement of reasoning and the gaining of conceptual understandings in the learning of disciplinary knowledge (Gómez Puente, 2021). The contributions of the affective and emotional components have been noticed too (Scheltenaar et al., 2015; Zhang et al., 2022), as they create the necessary corroborative context for the learning settings. These aspects lie at the core of the DBL learning approach.

Design-Based Research (DBR) approach, given its features, has the aim to strengthen the connection between research and practice. It has as its aim "integrating theory, practice, and research perspective, and improving understanding of the context, audience and problem" (Martínez-Álvarez & Bannan, 2013, p. 132). Therefore, according to Scott et al. (2020, p. 3), in DBR, a hypothesis is conceptualised as the sort of instructional solution, with the result that the designed instructional tools, when implemented consistently, positively impact student learning around the identified problem. With the emerging evidence of the tools/interventions effectiveness (or lack thereof), these measures can be progressively revised. As reported by Anderson and Shattuck (2012), there are no specific requirements for the form the aforementioned instructional tools are to take or the manner in which they are evaluated. As such, DBR is normally enacted using "extended, iterative teaching experiments in the classroom" (Scott et al., 2020, p. 2). Moreover, DBR, in addition to reporting the data collected, narrates design moves and rationale (Hoadley & Campos, 2022, p. 211). Alghamdi and Li (2013, p. 9) specify straightforwardly that "collecting data in design-based research should aim at achieving three purposes as follows: (a) re-define the problems, (b) explore possible solutions, and (c) consider the principles that might best address them." The DBR research has focused on numerous aspects, to mention only furthering teacher knowledge about selected phenomena, the effects of the intervention on student learning and motivation, using online and mobile technology, providing details of design and intervention revision, and producing practical measurable outcomes (Anderson & Shattuck, 2012; Zheng, 2015; Alghamdi & Li, 2013; Palalas & Hoven, 2013; Wang & Hannafi, 2005; Hoadley & Campos, 2022; Chen & Yang, 2019[4]). DBR is characteristically interventionist in nature, focusing both on the generation of new theoretical understanding and the

[4] This analysis is focused on Project-Based Learning versus typical teacher instruction and intervention. It is included here because the discussion there frequently uses projects synonymously with designs.

positive impact on practice (Palalas & Hoven, 2013, p. 59). It has also been productive in developing educators into more reflective, confident and competent teachers, able to design and enact a multiliteracies instruction (Lim & Nguyen, 2022). Thus, DBR "explicates how designs work in real settings and how to better understand the teaching and learning issues involved" (Zheng, 2015, p. 400), refining practice and advancing theory.

Following the explanations in Hoadley and Campos (2022, p. 208), in this paper the DBR methodology is adopted to investigate the hybrid course design with the view to obtaining actionable information about implementing combinations of computer-supported collaborative learning with face-to-face interactions, a move increasingly recommended by policy makers.

1.2 The blended learning design

Garrison (2017, p. 113) emphasises that e-learning "has moved into the mainstream of higher education and is recognized as a strategic asset". The technological element that is encouraged to be used at tertiary education is an institution-selected Learning Management System (e.g., Moodle) and the formula employed is that of *blended learning*, defined as:

> The teaching formula referred to as *blended learning* combines traditional face-to face classroom interaction with computer-mediated activities and belongs to the most frequently employed options in the process of foreign language teaching. As opposed to pure *e-learning* it is an outcome of mixing two different learning environments with the view to optimizing the conditions for learning and making it more efficient. (Lesiak-Bielawska, 2012, p. 48)

The greatest incursion of e-learning into tertiary education is thus executed through the *blended learning design*, with its full integration of face-to-face and online activities, thus promoting the coexistence of conventional, teacher-supervised instruction with novel and technology-related formats and activities (Mokwa-Tarnowska, 2015). Blended learning is not to be viewed as adding optional or supplementary materials and tasks to what is fundamentally a regular classroom-based learning experience. Rather, the proportion and the design of non-online and online components must be appropriate to the assumed educational purpose.

The major advantages of hybrid courses relate to the following (Plebańska & Kula, 2011, p. 19ff):

- mixed forms of interaction and, as a result, the possibilities of directly (in contact) and indirectly (via computer-mediated communication) motivating students,

- supporting students' individual learning pace and path,
- more flexibility in terms of didactic content focusing on the new and challenging,
- working at a convenient time and place (student decision),
- dynamic material presentation (multimedia, e-lessons, tests, control questions etc.),
- working with text, image and sound—which by fulfilling the postulate of polysensory teaching caters to the needs of different types of students' learning styles.

The hybrid course design requires new competences from the tutors. These comprise having the skills necessary in order to effectively adapt the conventional teaching methodology to distance learning conditions, and to harmonically combine the classroom and the online materials and tasks, as well as being aware of the conditions that determine students' online activity and of the rules governing the individual student work organization in virtual environment (Smyrnova-Trybulska, 2018).

In this paper, it is not assumed that a designed online or hybrid learning environment is automatically conducive to learning by itself. What is needed is the combination of measures taken and the mediating processes, which together might lead to the desired outcomes in terms of metalinguistic competence and positive attitude development (Hoadley & Campos, 2022) within the frame of holistic learning in higher education context (Joshi & Kantola, 2022).

2. THE STUDY

2.1 The context: Contrastive Polish-English Phonetics and Phonology at PUK

Prior to the onset of the present DBR project, three lecturers[5] at PUK, Department of English Studies, developed an idea of a course involving three enquiry modules focusing on the sound structure, the morphological component and syntax, all grounded in the contrastive studies tradition that used to define much of English Studies curricula in Poland (Fisiak et al., 1978; Willim & Mańczak-Wohlfeld, 1997; Mańczak-Wohlfeld, 2016). An ADDIE model (Kołodziejczyk, 2019; Kurt, 2018), which typically comprises five stages of Analyze, Design, De-

[5] Apart from the present author, Ewa Borowiec, PhD, and Anna Ścibor-Gajewska, PhD, Institute of English Studies, PUK.

velop, Implement, and Evaluate, was applied at this stage. The sequence is interactive and dynamic. While having stages clearly defined facilitates implementation of effective training tools, the model does not impose a strict linear progression through the steps (Kurt, 2018). The idea was to develop in-class and out-of-class teacher facilitation strategies to be employed in a pedagogic framework of social enquiry learning in an academic classroom. The three modules were originally taught by the three designers, divided respectively into 6 + 12 + 12 hours, and students' academic achievement was evaluated through a series of online and offline tests, culminating in the final oral examination. When conceptualising the whole 30-hour course, a design-oriented and interventionist approach (Tammeleht, 2022) was adopted, with the view to improving educational practices in real-life context through design, development, iterations and implementation, and leading to context-sensitive design principles and new theories (Anderson & Shattuck, 2012; Barab, 2014; Bakker, 2018). Very early on a LMS of Moodle was incorporated into the course, to act as class materials and external resources repository, and as an additional voluntary practice environment in the form of online quizzes pertaining to specific portions of the course content. The Phonetics and Phonology part investigated segmental inventories, sounds in context, sound interaction and interference as well as the suprasegmental phenomena of e.g., word-stress, rhythm, intonation.

2.2 The research objectives

Of particular interest to the present study is the feasibility of using a structured and grounded blended-learning course formula to re-design and transform a university-level course pertaining to the sound structure of English and Polish within the curriculum of English studies. This article therefore reports on a design-based research project investigating the pedagogical potential of building a metacognitive scaffolding related to the similarities and differences in the phonologies of English and Polish through the introduction of technological intervention (Zheng, 2015) of online tutorials, practice quizzes, glossaries and partial flipped learning. As a result, we hope to have developed a set of guiding principles for future practice in similar courses in the context of linguistic concepts development in an effective learning environment within higher education foreign language studies or degree programmes.

The following guiding questions were addressed in this DBR project, in the light of the reality brought about in the recent pandemic of COVID-19 in 2020:

1. Did the shift from fundamentally face-to-face classroom to blended-learning setting lead to greater student academic achievement?
2. Did the adoption of the blended-learning design have a positive effect on students' attitudes to learning this particular subject?

3. THE METHOD

The research involves a mixture of qualitative and quantitative methods, including participant reflections and semi-structured interviews, to "collect feedback on results or for assessment in an evaluation design" (Edwards & Holland, 2013, p. 38). The observations are based on extended, iterative teaching measures implemented in the real classroom for a subject known as Polish-English Contrastive Grammar, with its contrastive phonetics and phonology component. These were subsequently revised and re-designed to suit the changed reality of the pandemic virtual Higher Education classroom, to be re-evaluated and implemented for the post-pandemic conditions, thus producing measurable changes in student learning. The specific instructional tools and procedures were refined in comparison to the original design to face the challenges produced by the sudden pandemic-related reality, with the hope to understand why they worked or failed to work, whether they are more generally applicable and impactful.

The outbreak of the COVID-19 pandemic in February 2020 and the ensuing preventive measures established new conditions for everyday functioning in society as well as for the form regular education had to have in order to take place. It also necessitated introduction and development of online pragmatic competence for interacting in the changed conditions of online classrooms, since "technology can provide environments to expose language learners to a larger variety of sociopragmatic situations, as well as opportunities and spaces to test and develop their L2 pragmatic competence" (González-Lloret, 2021, p. 91). Among the various possibilities offered by, for example, LMSs and video-conferencing apps, it was deemed necessary to move the typical face-to-face interactive classes into the virtual world. That created new needs on the part of the students, who immediately noticed somewhat diminished interaction opportunities of online mediums, such as (initial) lack of breakout rooms and group work, study materials scattered across various communicative platforms, greater reliance on teacher knowledge transmission and insufficient opportunities for own contributions.[6] The audience

[6] These statements have been extrapolated from the agenda minutes (confidential) taken during regular online meetings with students and their tutor, organized to handle current classroom challenges in the face of the pandemic conditions.

required new measures to be taken, such that would avoid the time and place constraints and yet broaden access to the best teaching.

Consequently, the course design had to be revised and adapted. The original desired outcomes had to remain the same, namely the interaction and possible interference between the sound systems of English and Polish. That involved explicit teaching the declarative knowledge, the 'know-that' pertaining to the phonetic/phonological component of both languages, to build "phonological metacompetence as a major facilitative component enhancing the process of acquisition and ultimately actual sound realisations" (Wrembel, 2005, p. 1). What required modification was the type of intervention that would lead to improved outcomes (Zheng, 2015, p. 400). The decision was made that in order to develop the students' conceptual and metacognitive scaffolding, effective technological intervention was required in the environment and the tools. The designer had to re-apply the ADDIE model,[7] and a sequence of online synchronous and asynchronous instructional measures was pieced together. The synchronous largely used the e-version of regular pre-pandemic class handouts discussed in bigger groups in the teleconferencing mode. The asynchronous comprised: pre-recorded short tutorials on the specific aspects of the material, posted on the PUK Moodle platform, a series of short quizzes focused specifically on the issues tackled in the tutorials, a student-run (but teacher-approved) glossary of relevant examples of the phenomena discussed and collaboratively prepared revision guidelines. The materials introduced some elements of the flipped learning pedagogical framework (Jong et al., 2022).

By observing student learning over extended periods of time (three course cycles, from 2020 to 2022), we were able to identify the full impact of how the instructional tools worked for each successive group of students. Thus, we look at how our designs work(ed) in the real settings and whether we can improve our understanding of the issues involved in this learning and teaching.

4. THE RESULTS

Measuring the outcomes of the first iteration of the re-designed course, with a significant online portion, was a challenge. The students were wary of using too many technological affordances on their own, seemingly without teacher supervi-

[7] It has to be added though that some AGILE (imperiumszkoleniowe.pl) protocols were incorporated too. The AGILE element was manifested in the prompt reaction to the reality we worked in, in the typical "stop, there is a better way to do it" reaction to the unexpected factor of the pandemic and the lockdowns.

sion, and they focused heavily on the inevitable final examination. The exam questions on the Contrastive Phonetics and Phonology module centred on the academic and cognitive outcomes, grouped into description of systematic differences and similarities, discussion of possible interferences ("what errors are Polish L1 learners of English as L2 are likely to make in the following words…"), and substitution regularities in both directions. Students' attitudes were not investigated directly. During the exam three raters independently evaluated the students' performance. The Cohen's kappa was used to establish inter-rater reliability, with the value around 0.9; the results were regarded as stable and reliable. All the discrepancies among the examiners were resolved after face-to-face discussion. Students' results were expressed as marks, on a scale between 2 and 5, with 2 as a fail. Half marks were allowed too. All in all, 64 course participants attempted the exam. Out of this total number, 9 (14%) failed the phonetics and phonology part, while 6 (9%) failed the whole course (see Table 1).

Table 1
Course Participants' Results in the Final Exam 2020

***N* = 64**	**Average mark (2–5)**	**Failed**
Contrastive Phonetics & Phonology	3.66	9 (14%)
The Course	3.9	6 (9%)

For comparative purposes, in the previous academic year, 2018–19, the regular pre-pandemic course design produced the average mark of 3.61, with 12 (19%) students failing it, for approximately the same number of students, that is 63.

Similar pandemic-inspired pedagogical intervention was implemented in the next academic year, 2020–21, still under pandemic conditions. Since the results from the previous year were satisfactory in the sense that they showed a desirable level of achievement despite the changed instructional conditions, similar formulas were applied again. In a way, the technological intervention was tested in practice through "designing, developing, implementing and revising particular technological tools" (Zheng, 2015, p. 403), with the context being largely similar to the previous one. The novel element was the increased familiarity of both students and instructors with the new medium, and the new possibilities offered by the revised apps.[8] The tutorials and the online quizzes were employed again. This time the tutorials were to be watched obligatorily before the scheduled teleconfer-

[8] As before, this opinion comes from a similar source: regular meetings with the tutor.

ence meeting, where the procedure was to discuss problematic points and focus on analysis of actual examples provided on the handouts. In order to eliminate confusion about the basic concepts, new 'entrance-admission' quizzes were prepared, through which the students could revise and re-assimilate previous basic terminology. The quizzes dealt with items such as vowels and consonants, their classification, voicing, palatalization and assimilation. The in-class tasks were attempted both in whole-class and group collaborative modes. Following another tutorial, the groups also worked together at pre-exam revision time, producing student-generated revision tables.

Judging by the performance during the oral exam itself, the measures implemented proved effective and supported students' acquisition of learning outcomes defined for the course. Nobody failed the Contrastive Phonetics and Phonology portion, with the average score being significantly higher than in the previous year, the operational measures remained identical (Table 2).

Table 2

Course Participants' Results in the Final Exam 2021

***N* = 67**	**Average mark (2–5)**	**Failed**
Contrastive Phonetics & Phonology	4.27	0 (0%)
The Course	4.18	2 (3%)

The summative assessment data in the form of final examination can be complemented with those related to students' perceptions of the course and their evaluation of the employed pedagogy. Indirectly, they reveal students' attitude towards the measures and tools implemented. The data come from the confidential evaluation forms students filled after each course component.[9] The formula is such that the students are encouraged to add their own comments on any aspect of the course they wish to. Sample representative opinions of those who decided to express them are listed below (Table 3), broken out into common themes to eliminate repetitions and categorized into analysable subcategories, following the pattern coding strategy (Miles et al., 2014, p. 86).

[9] These do not disclose any points allocated to specific items in the evaluation form, or the general mark given to the lecturer, as these were decided to remain confidential as per PUK regulations. Thus, only specific insights from students are shown further on, translated by the author.

Table 3
Course Participants' Evaluative Comments 2020–21

Tutor's attitude	Material presentation	Instruction execution
X is a very empathic person, with an individual attitude towards the class and the people, they organize everything around us.	I like the way the classes were run this semester (theory at home, questions and exercises in class) — it has been the most convenient and time-saving way of studying so far.	We were able to actively participate in the classes because we focused on practical skills and key differences.
X is always ready to deal with any doubts we may have, including those with how to do the tasks and assignments, in- and out-of-class.	Presentations, handouts and additional materials (like phonetics tutorials, and quizzes) covered all exam material and much more additional information.	These were very content-rich, they broadened the knowledge and awareness of students.
The lecturer's attitude shows that they care primarily to teach the subject matter, to instil enthusiasm towards those things, to show their relevance and not simply to test the acquired knowledge.	The materials prepared and shared earlier reduced the need to ask about many things in class.	It was a very good idea to have the practice tasks and the revision tests for everybody as a way to revise the content. In the tests proper the questions were individual and shuffled.
X always takes students' opinions into consideration, they actually listen to us during classes. It is important.	The teacher regularly highlighted the most relevant information, that made proper preparation for the exam a lot easier.	Everything was so logical, one item following another, without unnecessary repetitions, you could see where it was all going.
X is very helpful, explains the material clearly, always answers questions (in class or by email), prepares additional tutorials when they appear necessary. All of this made us look at the subject and even the oral exam very favourably.	Lots of supplementary materials (e.g. presentations with voice-over, separate tutorials, self-managing revision quizzes) were prepared for students.	The tests were taken mainly online, on Moodle, which is a convenient solution because we had more class time for valuable discussion, you can also study for the exam based on test reviews.

The comments presented above demonstrate students' appreciation of the redesigned course pedagogy, and illustrate their overall favourable attitude towards the design itself, the way the materials were prepared and presented, and towards the instructional measures, especially those underlining self-sufficiency and convenience. The remarks on the teachers' conduct are listed too, as they reveal the impact and effective contribution towards the development of positive attitude development.

The academic year 2021–22 brought the lifting of most of COVID-19 preventive measures and the restoration of face-to-face classes. However, it was considered desirable to maintain many of the re-designed course elements, since they had proved rather successful. For the Contrastive Phonetics and Phonology portion, the pattern remained largely unchanged, following partial class-flipping, reference to online materials and practice activities as well as substantial F-2-F class interaction. The number of students nearly doubled, which meant that the online tutorials had to be used in some classes in order to supply all students with teachers' presentations. It was in practice no longer possible to divide the courses among the three teachers as had been the previous common practice. Additionally, the examination formula changed as well, by statutory regulations, it had to take the written form. The exam still contained the Phonetics and Phonology part, with the number of questions adjusted proportionally to the whole paper. Therefore, the results had to be manually recalculated from each student contribution, with a maximum of 18 points and average score of 12.64. These were then translated into marks on the 2–5 scale used for the whole exam, for easier comparison with the previous ones (Table 4). The changed exam formula as well as the nearly doubled number of students[10] could be interpreted as a significant factor in the observed decrease in the average marks when compared to the results from 2021 (Table 2). The 2022 results approximate those from 2020 (Table 1), when heavy reliance on online instructional design first occurred.

Table 4

Course Participants' Results in the Final Exam 2022

***N* = 111**	**Average mark (2–5)**	**Failed**
Contrastive Phonetics & Phonology	3.78 (70%)	22 (19%)
The Course	3.34	16 (14%)

Students' results on the Contrastive Phonetics and Phonology portion were statistically validated in a one-way ANOVA statistical test,[11] which showed that at $f = 1775.50473$, the p value is $< .00001$. The result is therefore significant at $p < .05$.

To be able to evaluate students' attitudes more directly, in the next academic semester, a selection of course participants (17 students, 15%) were asked to participate in semi-structured interviews, with a list of guiding questions and pre-de-

[10] Though the demographics, namely the age and the gender structure, remained similar.

[11] https://www.socscistatistics.com/tests/anova/default2.aspx

fined flexibility in answering them (Edwards & Holland, 2013). The participants were semi-randomly selected from all seven specialization groups, as some care was taken to obtain responses from people who received various final grades, so that their answers are more representative. The questions varied from very general "Do you recall…?", "Did you use…?", through pre-formulated options to choose from provided, culminating in encouraging them to venture their own views or ideas (see Table 5).

Table 5

Semi-Structured Interviews Responses (N = 17)

Tutorials' recall	17 (100%)
Tutorials watched…	17 (100%)
– only in class	2
– out of class	1
– both	14
Tutorials' general usefulness acknowledged	17 (100%)
Because… (more than 1 answer)	
– for the following F-2-F class practice	15
– for the pre-test revision at home	13
– for the pre-exam revision	17
– for online practice	15
– I did not use them I prefer to read the printed material, e.g. the handouts	0
Your opinion on them… (a selection of responses)	– *explained the material rather quickly, helpful* – *mostly how easily everything was explained in them* – *much easier to understand than the handouts because they were explained in a simple way* – *sometimes they were extremely funny, especially the one about Krakow-Poznań speech* – *explained the topic in a memorable way* – *easy to follow, and funny* – *short and to the point* – *useful for learning/revision* – *the delivery was excellent, captivating* – *they were about sounds and sounds must be heard, sometimes several times, to get them right* – *extremely helpful because I could access*

them at any time – *very relevant, very informative, very time-effective* – *The examples!!!* – *I still remember the feeling of actually realising these things happen in real life, as in the "który[ź] jest" in the Lord's Prayer.*	
Quizzes' recall:	
– Yes	13
– No recall	0
– They were optional, so I do not remember, but probably did them	4
The quizzes…	
– closely focused on what was in the tutorial	14
– were rather unrelated	
– were easy to be ignored	1
– required extra study	2
	7
The tutorials plus the quizzes…	
– should be abandoned, the F-2-F class practice is sufficient	0
– should stay as the permanent element of the course	12
– can stay as an voluntary option	7
– made my studying a bit easier	17
– are different from what we would otherwise have in similar subjects	10
– had no effect on my attitude towards the subject	0

The insights thus obtained reveal very positive opinions of course participants towards the elements of the blended learning paradigm introduced for the pandemic classroom and implemented in post-pandemic conditions. Because some time had elapsed, the students were able to reflect on the matter, therefore, it can be assumed that their responses reveal their true and considered opinions. What is underlined, again, is the positive effect the investigated elements had on their general attitude towards the subject and the cognitive efforts required of the students.

5. DISCUSSION

Students' learning can be influenced by a plethora of factors. In this paper, the actual course design and its effects on the course participants' learning pro-

cess and engagement are investigated. The character of certain courses at academia, while placing huge demands in terms of good procedural performance, views the inclusion of the technological component as an instance of good pedagogical practices. It is a widespread belief that CALL in general supports both types of knowledge—the declarative and the procedural. The implemented elements of blended learning draw on young people's tech-savviness, developing their digital literacies at the same time. At the core of the formula is the intent to rethink and perhaps redesign how the course can be best delivered to meet the academic goals. In this particular DBR project, the external conditions of COVID-19 pandemic, with the instituted preventive healthcare measures, to a large extent defined and brought about a significant increase in distant learning spaces from the predominantly face-to-face classrooms (Hoadley & Campos, 2022, p. 207). Although some elements of blended learning were present in the examined course on earlier iterations, the sheer intensity of the asynchronous online work to be done by students increased observably. This was combined with synchronous teleconferencing meetings, which largely reflected the organization and flow of a typical physical classroom. This practice follows the claim put forward in Hoadley and Campos (2022, p. 208), who maintain that any configuration of online learning may be blended with F-2-F interactions and that computer-supported collaborative learning may be a mix of the synchronous and the asynchronous activities, often heavily mediated by the instructor.

The measurable data in the form of marks obtained by students for the final exam performance on all three investigated iterations of the Contrastive Phonetics and Phonology revised course design testify to the pedagogical effectiveness of the blended learning environment. By focusing on materials functionality, associated tasks, structures and imposed practices, the mediating element of hybrid online and offline intervention came to generate the desirable outcomes. Through the recurrent iterations involving the building, testing and revising/reconjecturing subsequent solutions, taking into account several unpredicted circumstances and reanalysing earlier data, the actual course instructional design was able to be adjusted to meet the audience needs and the teacher's desired outcomes. It is true that the proposed solutions and shifts in the study paradigms placed heavy demands on course participants' creativity, their problem solving skills, invention and general engagement. From students' contribution to the evaluation surveys, interviews and actual online resources generated, it has become evident that in part, on each of the iterations, small micro-cultures of interest-driven groups arose. They connected outside the formal borders of instructional setting to expand their learning and to specialize further. One instantiation of this

were the reported occurrences of personal realisations that the subject matter that was part of the declarative and procedural metacompetence is immediately relevant and observable in their environment, with resultant glossary expansion with new examples (see the comments in Table 5 above). The course participants additionally underlined the aspects related to convenience, learning opportunities, class time-effectiveness and resources richness (see Table 3).

Therefore, the current DBR project on hybrid course organization seems to tick all the boxes mentioned in Hoadley and Campos (2022, p. 207), namely:

– avoiding typical place and time constraints of classroom learning,
– making learning more interactive,
– building on the micro-affordances of learner engagement,
– broadening access to the best expertise and teaching,
– modifying instruction pedagogies to online settings.

Thus, to conclude this part, the new teacher facilitation practices, which were enacted in the pandemic and post-pandemic conditions, respectively, functioned to significantly advance the pedagogic effectiveness of the instruction in the Contrastive Phonetics and Phonology portion of the larger course. When the results are compared with the opinions voiced in the evaluative surveys and the interviews, the conclusion for the future appears to be that the partially flipped learning in the form of the tutorials and associated practice quizzes is there to stay on future course iterations. The shift in educational context from the more regular in-class meetings to pandemic-related online settings, and back, through data reanalysis and revised designs, proceeded effectively. Thus we seem to have now "an effective and proven alternative to traditional direct instruction" (Chen & Yang, 2019, p. 78).

The second aspect investigated in this paper is related to the affective domain. "Educational settings are emotional places where students experience diverse emotions in relation to academic activities and their outcomes" (Zhang et al., 2022, p. 845). Factors such as human-centeredness, empathy, a culture of collaboration frame design-based learning pedagogy and impact a student's orientation to learning (Zhang et al., 2022, p. 846). Students not only acquire the concepts and knowledge presented in the actual design project but also experience it. For these reasons, it becomes of paramount importance to ensure that a design project participants develop and sustain a positive attitude towards the course and its formula. To this end, the examination of students' interview responses and comments in the evaluation surveys has revealed favourable opinions towards instruction organization, teacher availability and mediation, the form of the materials and the associated requirements. The interviewees uniformly support the incorpora-

tion of the blended learning course organisation and materials. Having used them both for in- and out-of-classroom study, they appreciate their value, the ingenuity, the range of examples, the presentation formula and the facilitative effect on their learning, in the comfort of their own private spaces. The related effect of reducing pre-exam anxiety was also acknowledged. It appears that the positive attitude towards the subject, and, by extension, towards this formula of learning, is well grounded.

CONCLUSION

As Hoadley and Campos (2022, p. 208) rightly observe that "online learning in the pandemic changed almost every characteristic of school as people knew it, and challenged how educators, students and families experienced fairly established ideas such as attention, involvement, and the social connections schools typically promote."

Although caution should be applied when generalizing the results of DBR projects, the idea that pandemic-inspired dynamic reforms to a (Contrastive Phonetics and Phonology) course design should become a regular fixture in more regular classrooms has received substantial empirical support. The decision to incorporate the hybrid course organization in the post-pandemic iteration appears justified, both in terms of the evaluation of measurable outcomes (in the form of students' final marks) as well as the positive attitude development as evidenced from course participants' own reflections.

These observations are necessarily drawn from a local context, yet they reveal certain generalizable patterns, such as effective system transformations, appreciation of design attractiveness, focusing on practices, learning agency and relevance. This is not to say that the technological elements can work on their own, by default, rather "they need to be aligned with the online learning context and audience" (Hoadley & Campos, 2022, p. 214). As Kern (2021, p. 143) observes "technology is no 'magic bullet' to improve language and literacy abilities—no technological medium is suited to all purposes and situations of language learning—yet it is so ubiquitous that all language educators must inevitably incorporate it in their teaching."

To conclude, it seems that the design-based research project described above offers, minimally, some tentative generalizations on incorporating a blended learning course design regularly, and it allows to turn the insights obtained into (re)designing interventions. It has to be added that the research focused solely on this aspect alone, with no attempts to establish the role of other factors apart from

the contribution of blended learning design, such as differences in students numbers, changes in the technological affordances of the media themselves, or the general language level in the groups. Admittedly, the paper reports only on one of the three portions of the course, it therefore makes pedagogical sense to research the remaining two, in order to see whether ideas implemented there are also transferable to other, less localized contexts.

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ENRICHING THE LINGUISTIC CONCEPT DEVELOPMENT OF ENGLISH UNDERGRADUATES THROUGH COVID-INDUCED BLENDED LEARNING PRACTICES: A DESIGN-BASED RESEARCH PERSPECTIVE

S u m m a r y

This paper investigates the incorporation of blended-learning instructional design into an academia-level linguistic course of Contrastive Phonetics and Phonology as an effective and localised measure to suit the shift from the physical classroom to online learning during the COVID-19 pandemic. This course followed the principle of design-based learning. The research examines the ensuing revision of pedagogical intervention on three subsequent course iterations, taking place both under pandemic restrictions and in the post-pandemic reality, as well as the participants' opinions and attitudes towards the changed instructional paradigm. Using a mixed quantitative and qualitative methodology, the data were collected from the participants' final exam marks, their comments in course evaluation surveys and from semi-structured interviews. The findings reveal the multi-aspectual effectiveness of the hybrid design and the participants' favourable attitude towards the revised course design, thus proving that this could be a new, post-pandemic course formula.

Keywords: design-based research; intervention revision; blended learning; attitude development; higher education

WSPIERANIE ROZWOJU KOMPETENCJI JĘZYKOZNAWCZYCH STUDENTÓW ANGLISTYKI ZA POMOCĄ NAUCZANIA HYBRYDOWEGO W CZASIE PANDEMII COVID-19 – PERSPEKTYWA BADAWCZA OPARTA NA PROJEKTOWANIU

S t r e s z c z e n i e

Artykuł dotyczy pomysłu włączenia nauczania hybrydowego do akademickiego kursu fonetyki i fonologii kontrastywnej. Projekt taki jawi się jako skuteczny i dopasowany do konkretnego kontekstu środek, pozwalający dostosować interwencję dydaktyczną do nauki online, jak to miało

miejsce podczas niedawnej pandemii COVID-19. Kurs jest zgodny z zasadą uczenia się opartego na projektowaniu. W badaniu zweryfikowano wynikającą z tych zasad modyfikację interwencji pedagogicznej w trzech kolejnych turach kursu, odbywających się w ramach ograniczeń pandemicznych i rzeczywistości post-pandemicznej. Zbadano także opinie i postawy uczestników wobec zmienionego paradygmatu instruktażowego. Wykorzystując mieszaną metodologię ilościową i jakościową, dane zostały zebrane na podstawie ocen z egzaminów końcowych uczestników, komentarzy w ankietach oceniających kurs oraz częściowo ustrukturyzowanych wywiadów. Uzyskane wyniki wskazują na wieloaspektową skuteczność projektu hybrydowego oraz na pozytywne nastawienie uczestników do zmienionego modelu kursu, wraz z postulatami, aby pozostał on na stałe post-pandemiczną formułą kursu.

Słowa kluczowe: badania oparte na projektowaniu; ocena działań pedagogicznych; blended learning; kształtowanie postaw; szkolnictwo wyższe