Merits and Drawbacks of Synchronous and Asynchronous L2 German Instruction

Axel Harting
Hiroshima University

This paper investigates the merits and drawbacks of synchronous and asynchronous L2 teaching approaches based on a case study of L2 German learners (CEFR A1 to B1) in Japan during the Coronavirus pandemic. To examine the benefits and difficulties of these two instruction types, a survey was carried out with students instructed with prerecorded videos and students taught with the live streaming app *Zoom* (n=78). The survey results indicate that students taught with *Zoom* reported having more opportunities to use the L2 with the teacher or among each other, enabling them to ask questions and to get instantaneous feedback. Students taught with videos, on the other hand, reported enjoying more flexibility in accessing and digesting the teaching contents at their own pace. In order to provide L2 German instruction that meets the needs of different types of learners, it is argued that a combination of both types of teaching approaches is most effective.

　本稿では、コロナ禍におけるドイツ語学習者（CEFR　A1〜B1）に対するライブ型とオンデマンド型授業のメリットとデメリットを調査し、それぞれのアプローチにおける利点と欠点について学生にアンケート調査を実施した(n=78)。調査の対象としたのはZoomライブ型授業を受講した学生グループと、ビデオオンデマンド型授業を受講した学生グループである。Zoomによる授業を受講した学生は、実際にドイツ語を使用してコミュニケーションをとる機会を得やすく、また質問をしたり、フィードバックを受けたりもしやすかった。オンデマンドでの授業を受講した学生は、それぞれ自分のタイミングで授業を受けたり、自分のペースでビデオを見たりすることができた。学習者にはそれぞれに合う学習スタイルがあるため、ライブ型とオンデマンド型両方のアプローチを取り入れた授業設計が望ましい。

During the Coronavirus pandemic language teachers worldwide were forced to offer their L2 instruction online. Hodges et al. (2020) referred to this as Emergency Remote Teaching (ERT), which differs from planned online teaching inasmuch as instructors had little time to get familiar with the required technology, as well as with adequate tools, materials, and methods. This necessity, however, offered teachers and students the chance to explore new ways of language teaching and learning.

Research regarding ERT is only just beginning to emerge. For English as a Second Language (ESL) Lafleur et al. (2021) investigated students' experiences with ERT and found that students appreciated being able to take classes from home and to be more flexible regarding their time management. However, the students in their study complained about social isolation, a high workload, and technical difficulties regarding the use of digital tools. As far as advantages of asynchronous instruction methods are concerned, Lafleur et al. (2021) found that prerecorded videos were popular with students, because they were technically less demanding than other tools and can be accessed repeatedly regardless of time and place. However, the authors also noted the lack of social interaction in asynchronous instruction. In this regard, synchronous approaches carried out with livestream video conferencing offered certain advantages, because they allowed for simultaneous interaction and immersive learning (Weitze et al., 2013). In particular, the breakout room function of the videoconferencing app *Zoom* has been found to offer the opportunity to replicate group and pair work which helps students build a sense of community (Selwood, 2021). However, Carter and Patton (2021) argued that it was not possible to maintain the same level of cohesiveness in the virtual classroom as in face-to-face teaching. Other disadvantages of livestream videoconferencing were found to be that those systems relied on a stable internet connection (Kagan, 2019) and that their overuse may lead to what Wiederhold (2019) called *Zoom fatigue*, a tiredness caused by an overload of nonverbal cues and other difficulties encountered in online communication. Still, the use of information and communication technology for L2 learning may offer certain advantages. During ERT Yamamoto and Teaman (2021) observed that their ESL students were able to build confidence in using digital communication tools, which increased their motivation to learn English.

These aforementioned studies all examined English. In this paper, I will reflect on my ERT experience by investigating the merits and drawbacks of synchronous and asynchronous instruction methods for L2 German at a university in western Japan. The questions underlying this study are:

(1)   What difficulties do L2 German students face in ERT?

(2)   What were the advantages and disadvantages of synchronous and asynchronous L2 teaching approaches for the students?

(3)   How did ERT impact L2 German students' learning?

Participants and Procedures

This study is based on the results of a student survey (n=78) regarding the author's L2 German ERT at a public university in western Japan during the spring term of 2020. The survey was carried out anonymously in line with the university's rules and regulations regarding research ethics. Students were informed about the survey's purpose and consented that their responses were used for investigating online L2 instruction and learning. Table 1 gives an overview of the six German classes investigated in this study. In total, 78 (individual figures for each class in brackets) out of 119 students participated in the survey. All students were native speakers of Japanese, between 18 and 22 years old, and either in their first, second or third year of study.

Table 1
Overview of Classes

	Year	Level	Course type	Classes/ Week	Number of students	Instruction by
Basic German	1st	A1	compulsory	1 (1)	34 (22)	VOD (*Teams*)
Basic German	1st	A1	compulsory	1 (1)	31 (20)	VOD (*Teams*)
Intensive German	1st	A1	elective	2 (2)	28 (19)	*Zoom* (VOD)
Advanced German I	2nd	A2	elective	1	14 (8)	*Zoom*
Advanced German II	3rd	B1	elective	1	6 (4)	*Zoom*
Culture Class	3rd	B1	elective	1	8 (5)	*Zoom*

In the spring of 2020 I had three first-year beginners' classes (CEFR level A1) each of which met once for 90 minutes each week. I shared these classes with another teacher, whose information is in brackets. For the compulsory Basic German classes, which usually consist of more than 30 students, I used an asynchronous approach by creating Videos On Demand (VOD) based on the A1 Basic German textbook. All the other elective classes, I taught synchronously by using the videoconferencing app *Zoom*, because participants in those classes tend to be more eager to interact in German. Apart from the culture class, in which I used online materials from the news provider *Deutsche Welle,* all classes were based on a textbook geared at the CFER level indicated in Table 1.

VOD Classes

For the classes instructed by VOD, I recorded video tutorials of 15 to 25 minutes length that contained three components: a digital blackboard created with *PowerPoint,* a video of myself giving instructions, and a digital version of the textbook. The digital blackboard served the same functions as the blackboard in the classroom: to illustrate grammar explanations, to write down examples and vocabulary, and to provide scaffolds for interactive exercises. Since I expected that students would probably not have a partner to practice with, I adopted the role of the partner in these dialogues. To allow students to follow the progression of exercises easily, I covered the exercises in the same sequence as they appeared in the print version of the textbook. In order to check whether students had actually completed the video lesson and to what extent had comprehended the contents, a homework task had to be submitted through the Blackboard Learning Management System (Blackboard version 9). This system allowed me to give students feedback on their homework, and assess their participation and progress in the class. Furthermore, I could upload the individual VODs and other information regarding the class on a designated page.

Zoom Classes

For these classes, I also used Blackboard to provide students with the URL for the 90-minutes *Zoom* lesson. I uploaded a PDF file containing a list of contents to be covered in the lesson, as well as scaffolds for communicative exercises to be carried out in individual breakout rooms. Depending on the type of exercise, I created groups of two to four students for the individual breakout room sessions. These sessions averaged 10 minutes in length. I moved between breakout rooms to see how well the students coped with the exercises, and to give them the chance to ask questions.

In both *Zoom* and VOD classes, students' performance was evaluated by weekly homework tasks conducted through Blackboard, which contained grammar, vocabulary, and writing exercises based on contents taught in the previous class. Students' grades depended on points collected in these homework tasks, as well as on the results of two written online exams carried out in the middle and at the end of the semester. In livestreaming classes, students' participation in classroom activities was also reflected in their grades.

After the completion of the first semester, students completed a voluntary and anonymous survey in their L1 Japanese regarding the VOD and Zoom lessons. The survey could be accessed through a link, which guided the students through four sections of questions. Section 1 asked participants about their learning environment such as the location and the medium of class access. In section 2 students evaluated quantitative aspects of the class, such as its length, speed, and range of contents as well as (technical) difficulties encountered during class. In Section 3 students assessed their progress regarding L2 learning, and in Section 4 they reflected on the merits and drawbacks of L2 German online instruction. Sections 1 to 3 either contained a set of answers to choose from or had to be answered by Likert scales. In Section 4 participants were asked to write comments in their L1 Japanese. In total, 78 students (65% of the total number of the classes' participants) completed the survey: 44 respondents were taught with VOD and 34 with *Zoom.* For the following comparison of the *Zoom* and VOD classes percentages were calculated for presenting quantitative results (Tables 2 to 5). Throughout the analysis respondents will be referred to as either *Zoom students* or *VOD students*. Additionally, the letters 'V' or 'Z' used after English translations indicate the method of the class.

Findings and Discussion

The necessity to provide German classes through ERT offered students the opportunity to spend the spring term in their home cities and prefectures. In the survey, they were asked whether they spent the semester close to the university, and inside or outside the prefecture. The results indicate the vast majority of students taught with *Zoom* spent the semester close to the university, while only just more than half of the students taught with VOD did so. Also, students were asked to indicate which device they normally used to access the class. Detailed information is listed in Table 2.

Table 2
Medium of Class Access

	VOD			Zoom		
	never	sometimes	often	never	sometimes	often
Computer	0%	5%	95%	0%	3%	97%
Smartphone	67%	31%	2%	72%	22%	6%
Tablet	90%	10%	0%	100%	0%	0%

As the figures in Table 2 show, the majority of students used a computer to participate in class, regardless of whether instruction was delivered by *Zoom* or VOD. However, almost one third of the VOD students and more than a fifth of the *Zoom* students sometimes also used their smartphones for this purpose, while tablets were hardly used at all. In order to determine the appropriateness of the ERT, students assessed certain aspects of the class, such as the length, the range of contents covered in a class, the speed of instruction, and the overall effort they had to exert to pass the class. Student answers are presented in Table 3.

Table 3
Students' Perceptions of Classes

	VOD			Zoom		
	Not enough	Appropriate	Too much	Not enough	Appropriate	Too much
Length	10%	90%	0%	0%	69%	31%
Contents covered	0%	90%	10%	6%	86%	8%
Speed of instruction	4%	96%	0%	5%	92%	3%
Effort to pass the class	10%	85%	5%	8%	78%	14%

As illustrated in Table 3, a majority of the students taught with VOD deemed all of the aspects of the class appropriate, while almost a third of the Zoom students perceived the 90-minute sessions as too long, and 14 percent felt that they had to invest too much

effort to pass this class. One reason why many *Zoom* students perceived their classes as too long can be seen in the following comment: "It is tiring if you don't speak and just have to follow events on the computer for a long time" (Z). This is particularly true, if one takes into account that some students had up to five (90-minute) classes per day.

As far as the speed of my instruction was concerned, the advantage of using VOD was that students could digest teaching contents at their own pace. Two notable comments from VOD students were: "I always paused the video when I needed time to think or when I wanted to practice something" (V), and "When I didn't understand, I replayed the video and listened to the explanations again" (V). VOD students also stated they liked the fact they could see the teacher throughout the lessons: "I had the impression I was in a face-to-face class, because I could see and hear the teacher talking to me" (V) and "It felt like a one-to-one lesson" (V). However, the use of digital technology also entailed difficulties regarding the use of hardware and software. Some VOD students complained that the VODs could not be displayed properly on a certain device, while around a quarter of *Zoom* students had difficulties using the *Zoom* app itself: "Sometimes sound overlaps hampered the communication" (Z), "Depending on the computer, some participants' volume was too low" (Z), and "It is hard to tell how one's own background noises can be heard by the others" (Z). Also, the use of the LMS posed problems when students tried to up- and download their homework. Although the procedure of homework submission was the same in all classes, students taught by *Zoom* seemed to have experienced more difficulties in this regard.

Apart from technical difficulties, the survey also aimed to uncover how students coped with problems or questions regarding teaching contents. More than three quarters of VOD students mostly relied on their textbook for solving their questions regarding the content, while only less than 20% also consulted other teaching material (mostly online) or their classmates. The *Zoom* students, on the other hand, addressed most of their questions to me directly, usually during the *Zoom* session itself with 63% of students reporting that they had asked the teacher, compared to only 2% of VOD students. Compared to the VOD students, who had just started their university education, students taught with *Zoom* also resorted more to other study materials they were already familiar with from (the) previous year(s).

One possible disadvantage of learning with prerecorded videos was that it was not possible for students to obtain any kind of feedback. Some students commented, such as: "We couldn't reconfirm, whether or not we understood things correctly" (V). This was problematic when it came to pronunciation: "We simply can't tell whether our pronunciation is correct or not" (V). The lack of feedback in VOD instruction also seemed to cause concerns regarding the quality of learning and the risk of misunderstandings: "We may memorize things which are not correct" (V). Interestingly, some perceived the lack of opportunities for feedback in VOD instruction as a challenge: "The fact that we are forced to use our own heads, may improve our ability to learn" (V).

As far as the impact on L2 learning of the teaching approach chosen is concerned, students were asked which language skills they were able to improve throughout the course. Table 4 lists the individual skills mentioned in the survey according to how many percent of VOD and *Zoom* students perceived improvements.

Table 4
Perceived Improvement of Individual L2 Skills

VOD		Zoom	
Grammar	94%	Cultural knowledge	77%
Writing	93%	Grammar	75%
Vocabulary	84%	Reading	70%
Reading	84%	Interaction	69%
Cultural knowledge	69%	Vocabulary	67%
Listening skills	63%	Pronunciation	59%
Pronunciation	46%	Writing	58%
Speaking	37%	Speaking	53%
Interaction	31%	Listening skills	44%

As the figures show, students taught with VOD felt that they could improve their knowledge of L2 German grammar, vocabulary, as well as their writing and reading skills. Students taught by *Zoom* mostly mentioned improvements of their cultural knowledge, but also regarding grammar and reading. A significant difference is that although the percentages of *Zoom* students' self-assessment are generally lower compared to those of VOD students, the higher figures for speaking, pronunciation, and most notably interaction indicate, that students taught with *Zoom* reported feeling that they were more likely to be able to improve their oral L2 skills. To investigate whether students' ERT experience during the pandemic had an impact on their perceptions of the

effectiveness of digital L2 learning, they were asked whether or to what extent their future L2 instruction should be carried out online.

Table 5
Preferred Teaching Method for Future L2 German Instruction

	VOD	*Zoom*
Online only	21%	11%
Mainly online	44%	19%
Mainly face-to-face	27%	31%
Face-to-face only	8%	39%
If online preferably *Zoom*	12	88
If online preferably VOD	88	12

The figures presented in Table 5 show that students do have quite different opinions regarding their preferred teaching method for future L2 German instruction. Almost two thirds of students taught with VOD would prefer to have their future L2 instruction mainly (44%) or completely (21%) online, while more than two thirds of students taught with *Zoom* would rather receive their instruction face-to-face, 39% among them face-to-face only. In case future instruction will have to be carried out online, 88% of both VOD and *Zoom* students would prefer the approach they were taught with in the spring term of 2020. This may be partially explained by the fact that students of the *Basic German* classes taught with VOD took this German class as a compulsory requirement during their first year of studying Medicine. In my experience, their ambition to acquire German for communicative purposes is rather low. Therefore, the convenient 15-minute-video format accompanied by a homework may have appealed to many of them, as can also be seen in their comments: "The lessons were presented in a straightforward and manageable form" (V), "We can access the videos outside the allocated class period and watch them as often as we like" (V), and "We can learn at our own pace, and we don't have to worry about others" (V). However, not all students taught with VOD were satisfied with the approach chosen for their class: "Compared to in-class or *Zoom* instruction there is little incentive for active participation" (V) and "It is difficult to get to know the classmates and to make new friends" (V).

The students of the voluntary *Intensive, Advanced,* and *Culture* classes, on the other hand, mostly expressed their appreciation of the synchronous teaching format chosen for their classes: "The classes were a good stimulus for me, because I don't get to meet and talk with other students very often." (Z). Also, learning in a different place, but at least at the same time as their classmates, may have increased their motivation to study. "It was nice to see the faces of the other students" (Z). However, even with videoconferencing apps, the quality of communication is rather limited as the following comments show: "It is hard to communicate online with a larger group" (Z), "It is no fun to talk to people whose camera is off" (Z), "It is difficult to find the right time to make a remark" (Z) and "I hesitated to ask questions, because that might have disturbed the class." (Z). Finally, informal chats, which are an integral part of classroom teaching, do seem to fulfil an important function as the following comment shows: "Since there is no private interaction during the class, the contents taught did not leave such a big impression on me" (Z).

In comparison to face-to-face teaching both *Zoom* and VOD students have experienced certain benefits of online instruction. In their comments, they particularly emphasized practical advantages: "I can take the class anytime and at my own pace" (V), "We can save time, because we don't have to commute to class" (Z), "We can be fit for the class, because we can relax or prepare just seconds before it starts" (Z) and "We can easily access the study material online" (Z). Another advantage lies in the affordances that digital tools can offer for L2 learning: "Thanks to the movies and pictures of the digital textbook, I could memorize vocabulary and dialogue in an enjoyable way" (V), "It is convenient to communicate via chat and email." (Z), "Thanks to the earphones I could concentrate on the teacher and the study material more intensively" (Z), and "With the computer we can easily share texts and pictures and use them in exercises" (Z). Finally, online teaching may help learners to develop more autonomy in their L2 learning process: "It is easy to set up a self-study environment" (V). Drawbacks of online teaching mostly revolved around the lack of social interaction, as can be seen in the following comments: "Even in livestream lessons there are not many opportunities to talk to other students." (Z) and "There is simply not enough time to actually speak German" (V). Also, it seems to be hard for students to assess their own achievements: "We cannot compare our progress with our classmates" (Z).

Summary and Conclusion

The findings presented above point out some of the difficulties encountered in L2 German ERT by highlighting merits and drawbacks of prerecorded versus livestream instruction. To summarize the survey's results, I will address the three research questions

stated at the beginning of this paper. Research question 1 asked what difficulties students studying German face in ERT. Examining the results of the survey revealed that both VOD as well as *Zoom* students encountered various technical problems. While VOD students sometimes faced difficulties when downloading the instruction videos or playing them properly on their own devices, *Zoom* students complained about technical issues regarding the livestreaming app, such as sound overlaps and background noises. Apart from that, students raised concerns regarding the lack of social interaction in ERT, which they regard as essential for foreign language learning. VOD students pointed out that they were not able to interact with their classmates, and to address their questions directly to the teacher when they encountered difficulties. But also in livestreaming classes, students complained about the lack of opportunities to have informal, casual chats with their classmates. For that matter Carter & Patton (2021) suggest letting students chat with their classmates in breakout rooms or at a designated time of the livestreaming session.

The second research question addressed merits and drawbacks of synchronous and asynchronous teaching approaches. As the survey's results revealed, asynchronous instruction by video offers learners more flexibility to organize their learning activities, because teaching contents can be accessed repeatedly at any time and place. Some respondents even perceived it as a challenge to be forced to take charge of their own learning process. However, not all learners are capable of studying effectively without the teacher's assistance. Some VOD students wished to have more opportunities to ask questions and to get feedback from the teacher. Moreover, the lack of chances to communicate in asynchronous teaching approaches leaves only very little opportunity for learners to actually use the L2.

The possibility to speak with others in real time is the biggest advantage of using a livestreaming app like *Zoom*. In their comments, students mentioned that they appreciated seeing their classmates' faces and studying with them at the same time. This certainly helped to increase their motivation to attend the class and to study the L2. However, even instruction with livestreaming apps was deemed insufficient from a communicative point of view. Apart from sound overlaps, transmission delays, and background noises, communication was also impaired by the fact that some participants had their cameras off. To avoid disturbing the progress of the *Zoom* class, some learners refrained from making contributions or side remarks during the session. In breakout rooms with more than two participants it always had to be negotiated who would speak when. Such problems, however, could partially be overcome by providing conversation rules for livestreaming classes (Yamamoto & Teaman, 2021).

The third research question addressed students' improvements of individual L2 skills during ERT. Based on their own assessments, most *Zoom* and VOD students noticed improvements in fields like grammar, vocabulary, reading, and writing rather than in their oral productive skills. To a certain extent, however, students taught with the livestreaming app *Zoom* had the impression that they could also improve their speaking, pronunciation, and communicative skills. This result is hardly surprising, because learners need opportunities to interact in the L2 and to get instant feedback on their oral output in order to develop their productive oral skills. However, even in my livestreaming classes learners' overall ratings of their speaking skills were rather low: This may be explained by the fact that in my ERT I put a stronger focus on grammar, vocabulary, and writing, because these sub-skills are more suitable for remote teaching and assessment. Therefore, providing learners with opportunities for active language use seems to be a key challenge of online teaching approaches (Healy, 2021).

The survey I conducted on my ERT helped to uncover some of its strength and weaknesses, however the results should be treated with caution, because the classes compared in this study had different characteristics described in Table 1: while the two VOD classes were compulsory L2 German courses for absolute beginners, three of the four *Zoom* classes were voluntary and for students with higher L2 levels. Apart from that, there were also differences regarding the teaching materials used in each of the classes. Further limitations lie in the comparatively small scope and the subjective nature of this study. Therefore, learners' opinions obtained in the survey have to be interpreted in relation to my personal approach to deliver VOD and *Zoom* lessons.

Nevertheless, my ERT experiences may have the potential of enhancing my future face-to-face teaching. In order to increase students' opportunities to actively use the L2 inside and outside the classroom, both livestreaming apps like *Zoom* and prerecorded lessons in the form of VOD may be valuable tools. While *Zoom* might be used as a medium for students to perform assigned speaking tasks and to interact among themselves outside the classroom, prerecorded videos on grammar and vocabulary might enable teachers to use valuable class time more effectively for interactive tasks (flipped learning). Besides, support for online or hybrid teaching also comes from the students themselves as the quantitative results listed in Table 5 as well as their appreciation of certain aspects of ERT raised in their comments show. The challenge is to harness the benefits of learning with digital media without giving up the unique opportunities that only in-class teaching can offer.

Bio Data

Axel Harting wrote his PhD on German and Japanese e-mail writing and is teaching German at Hiroshima University. His research fields are L2 writing, L2 pragmatics, and Computer-assisted language learning.

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