

Jordanian EFL Learners' Perceptions of the Utility of Synchronous and Asynchronous Online Instruction

Raed Mohammad Al- Musili, ABD
2019230033@ses.yu.edu.jo

Prof. Ruba Fahmi Bataineh, PhD
rubab@yu.edu.jo

Prof. Dina Abdulhameed Al Jamal, PhD
Deena.j@yu.edu.jo

Department of Curriculum and Methods of Instruction
Yarmouk University
Irbid, Jordan

Abstract

This study aims to investigate Jordanian EFL Learners' perceptions of the utility of synchronous and asynchronous online instruction in foreign language education. Following a quasi-experimental research in which four groups of Jordanian ninth-grade students were taught face-to-face and synchronously, asynchronously, and both synchronously and asynchronously online, respectively, the sixty students who constituted the three experimental groups responded to a 30-item questionnaire¹ in the first semester of the academic year 2021/2022. The findings revealed highly favorable perceptions of synchronous online instruction, and moderately favorable perceptions of both asynchronous and combined synchronous and asynchronous online instruction. Pedagogical implications and recommendations are put forth.

Keywords: EFL, asynchronicity, perceptions, online instruction, synchronicity

Introduction

Online instruction, online education, distance learning, distance education, Web-based instruction, virtual education, e-learning, digital learning, and cyber schools are terms used interchangeably in most research (e.g., Rice, 2006). These terms essentially refer to an educational environment in which computer software and communication technology is used to deliver instruction to students in geographically distant places (Sun & Chen, 2016; Van Beek, 2011).

Information and communication technology (ICT) has revolutionized how teachers teach and students learn. However, online education was more a luxury than a priority. According to Van Beek (2011, p.v), "Virtual learning is not for every student, but it is not science fiction, either". Nevertheless, online instruction has become increasingly popular in K-12 and tertiary education over the last two decades, and even more so over the last two years since the advent of the COVID-19 Virus.

¹ For a copy of the questionnaire, contact the corresponding author at rubab@yu.edu.jo or 2019230033@ses.yu.edu.jo

Despite valid concerns over equitable access, adequate infrastructure, and teacher and student preparedness for the demands of online teaching/learning (Manca & Meluzzi, 2020; UN, 2020), the COVID-19 Pandemic has forced most countries to seek alternatives to face-to-face instruction to sustain education during school closures. Most notable amongst these alternatives to safeguard against 'no schooling' has been online instruction.

In Jordan, as in many other educational contexts, the COVID-19 Pandemic has forced educational institutions to close, which has forced an unprecedented shift from traditional face-to-face education to fully- or partially- online education (e.g., Leo, Alsharari, Abbas, & Alshurideh, 2021; Saed, Haider, Al-Salman, & Hussein, 2021).

Research (e.g., Al-Miqdadi, 2020; Al-Rifa'i, 2019; Al-Sakal, 2020; Huang & Hsiao, 2012; Pullen & Snow, 2007; Sherer & Shea, 2011; Smadi, 2020) reports that online instruction has become the mode of preference for many learners worldwide. This may be more so now under the Pandemic, as online instruction affords them convenience, accessibility, and flexibility, allowing them to attend classes at their own time (Huang & Hsiao, 2012; McBrien, Cheng, & Jones, 2009) and pace. We talk so much about online learning because numerous supposed advantages and benefits of online learning are available. The most significant of them is their efficiency in educating pupils, their usage as professional development, their cost-effectiveness to counteract the increasing expense of post-secondary training, credit equivalent just at comment primary level, as well as the possibility of

providing high-quality education to people with broadband access (Fisher, 2012).

Nevertheless, students and teachers alike show concern that their online courses lack the interaction typically found in traditional, face-to-face classrooms (Jahn, Piesche, & Jablonski, 2012; McBrien et al., 2009). However, with features like web camera, recordability, and discussion features, synchronous online instruction is approximating its traditional counterpart, except that teachers and learners are working remotely over the Internet (Bower, Kennedy, Dalgarno, Lee, & Kenney, 2014; Gosper, Green, McNeill, Phillips, Preston, & Woo, 2008) as it allows them opportunities for immediate feedback, interaction, and engagement (Yamagata-Lynch, 2014).

By contrast, asynchronous learning may not be as advantageous to learners as its synchronous counterpart in terms of interactivity, engagement, and immediate feedback. Nevertheless, it allows them opportunities for self-paced learning through practice at their own time anywhere on the planet (Azizan, 2010).

Learner perceptions (alternatively attitudes or opinions) have been hailed as a significant catalyst to learning, as they are reported to influence student behavior and commitment towards learning (e.g., Kaban, 2021; Popham, 2005; Wu, 2010). By attending to learners' perceptions, teachers can adjust their teaching to better suit their learners (Emaliana, 2017). However, perceptions of and attitudes towards the pedagogical effectiveness of online instruction have been reported to range from highly favorable to skeptical (e.g., Katz, 2002; Popham, 2005; Zheng, Bender, & Lyon, 2021), probably because the pedagogical philosophy underpinning

online instruction is still muddled (Martin & Parker, 2014). Nevertheless, online learning is generally believed to provide anyone with Internet connectivity with world-class education everywhere and every time, which is probably why massive open online courses (MOOCs) are becoming very popular for academicians and business people alike (Bozkurt, Jung, Xiao, Vladimirschi, Schuwer, Egorov, et al., 2020).

Problem, Purpose, Question, and Significance of the Study

The researchers, who are teacher educators and educational practitioners at both the school and tertiary levels, have noticed a dearth of empirical evidence on the utility of synchronous and/or asynchronous instruction in foreign language education in general and EFL learners' perceptions about its utility both in Jordan and elsewhere. Contrary to an abundant body of research on student perceptions about the utility of computers and the Internet in foreign language education (e.g., Baniabdelrahman, Bataineh, & Bataineh, 2007; Bataineh & Baniabdelrahman, 2006; Bataineh & Mayyas, 2017), literature on learners' perceptions (attitudes towards, or opinions) about the utility of online instruction in general and synchronous and/or asynchronous instruction in particular is rather scarce and far in between (Katz, 2002; Rinekso & Muslim, 2020).

Globally, online instruction continues to spread at an unprecedented rate (Bailey, Almusharraf, & Hatcher, 2021; Manca & Meluzzi, 2020). With the spread of COVID-19 and the ensuing closures across all sectors, the Jordanian Ministry of Education has launched a number of unprecedented initiatives to digitalize school curricula and enforce online

instruction (e.g., Darsak Online Portal) to sustain education and ensure student learning (Almaiah, Al-Khasawneh, & Althunibat, 2020). Thus, it may be timely to examine stakeholders' (learners in the current research) perceptions of the utility of different modes of online instruction to gauge their acceptance which is a potential catalyst for its success.

The purpose of this research is to investigate Jordanian EFL learners' perceptions of the utility of synchronous and/or asynchronous online instruction. The findings of the research are hoped to give insight into the perceived utility of online instruction in Jordan and its legitimacy, or lack thereof, as a viable mode of instruction. More specifically, this research seeks to answer the question, *what are Jordanian learners' perceptions of the utility of synchronous and/or asynchronous online instruction in foreign language education?*

The significance of this research may derive from its potential contribution, as the findings gleaned may signal the respondents' acceptance, or lack thereof, of synchronous and/or asynchronous online instruction as a viable alternative, or supplement, to face-to-face instruction in the Jordanian EFL context.

Design, Participants, and Instrument of the Study

This study reports the results of a follow-up survey which sought the respondents' perceptions of the utility of online instruction after having been subjected to a three-group, 10-week quasi-experimental treatment involving synchronous, asynchronous, and a combination of synchronous and asynchronous online instruction. The participants are 60 ninth-grade students (20 per group) from a public

school in Irbid Directorate of Education in the first semester of the academic year 2021/2022.

Three adapted 30-item versions of Abu Sa'aleek's (2020) questionnaire were distributed to the respondents following the treatment to gauge their perceptions about the utility of synchronous and/or asynchronous instruction. The validity of the questionnaire was established by a jury of experts in curriculum and instruction, foreign language education, and measurement and evaluation whose feedback was used to amend the questionnaire prior to distribution. The reliability of the questionnaire, established

using Cronbach Alpha (Cronbach, 1951), amounted to 0.97, which was deemed appropriate for the purpose of the research. The Statistical Package for Social Sciences (SPSS, version 23) was used to analyze the data.

Findings of the Study

questionnaire, in its three versions, was used to probe Jordanian EFL Learners' perceptions of the utility of synchronous and/or asynchronous online instruction. Table 1 shows the means, standard deviations, and level of agreement of the perceptions of the respondents who received synchronous online instruction.

Table 1. Means and Standard Deviations of Students' Perceptions of the Utility of Synchronous Instruction²

| Item Number | Item | Rank | Mean | SD | Level of Agreement |
|-------------|---|------|------|------|--------------------|
| 22 | I communicate more with my classmates in synchronous instruction. | 1 | 4.45 | 0.89 | High |
| 28 | Synchronous instruction helps me better understand the lesson. | 2 | 4.35 | 0.99 | |
| 29 | Synchronous instruction allows me more opportunities for studying in lessons. | 3 | 4.30 | 0.87 | |
| 21 | Using synchronous instruction encourages careful listening in lessons. | 3 | 4.30 | 1.17 | |
| 4 | Synchronous instruction enables me to answer more quickly in lessons. | 5 | 4.25 | 0.91 | |
| 1 | Using synchronous instruction facilitates recalling information in lessons. | 6 | 4.20 | 1.20 | |
| 11 | Using synchronous instruction encourages me to take notes during lessons. | 6 | 4.20 | 1.24 | |
| 12 | Using synchronous instruction encourages me to improve my performance in lessons. | 6 | 4.20 | 1.00 | |
| 23 | Using synchronous instruction fosters my determination for success in lessons. | 6 | 4.20 | 1.11 | |
| 17 | I prefer using synchronous instruction in lessons. | 6 | 4.20 | 1.01 | |
| 30 | Synchronous instruction improves my skimming skill. | 6 | 4.20 | 0.96 | |

² out of a maximum score of 5

| Item Number | Item | Rank | Mean | SD | Level of Agreement |
|-------------|---|------|------|------|--------------------|
| 18 | Using synchronous instruction allows individual students opportunities to ask/ answer in lessons. | 12 | 4.15 | 0.99 | |
| 24 | Synchronous instruction improves my deduction skills. | 12 | 4.15 | 1.14 | |
| 19 | Synchronous instruction improves my scanning skill. | 14 | 4.10 | 1.33 | |
| 5 | Using synchronous instruction helps me distinguish fact and opinion in lessons. | 14 | 4.10 | 1.45 | |
| 6 | Synchronous instruction allows me to keep track of my progress in in lessons. | 14 | 4.10 | 1.02 | |
| 10 | Synchronous instruction is flexible to use in lessons. | 14 | 4.10 | 0.85 | |
| 16 | Using synchronous instruction improves my inference skill in lessons. | 18 | 4.05 | 1.40 | |
| 25 | Using synchronous instruction is fun. | 18 | 4.05 | 1.10 | |
| 3 | Using synchronous instruction allows me to exchange information with my classmates. | 20 | 4.00 | 1.12 | |
| 8 | Synchronous instruction supports my learning of difficult topics. | 20 | 4.00 | 1.34 | |
| 13 | Using synchronous instruction fosters my motivation for learning. | 20 | 4.00 | 1.03 | |
| 27 | Using synchronous instruction fosters my interest in lessons. | 20 | 4.00 | 1.17 | |
| 9 | I am confident with synchronous instruction lessons. | 24 | 3.95 | 1.36 | |
| 2 | Using synchronous instruction increases competition in the lesson. | 25 | 3.90 | 1.02 | |
| 14 | I feel bored in synchronous lessons. | 26 | 2.45 | 0.76 | |
| 15 | Using synchronous instruction is not effective in lessons. | 27 | 2.75 | 0.55 | |
| 26 | I hate using synchronous instruction in lessons. | 28 | 2.40 | 0.60 | |
| 20 | I feel embarrassed during synchronous instruction. | 29 | 2.20 | 0.83 | Low |
| 7 | Synchronous instruction makes me uncomfortable. | 30 | 2.15 | 1.10 | |
| Overall | | | 3.85 | 0.80 | High |

Table 1 shows highly favorable perceptions about the utility of synchronous online instruction, with an overall mean of 3.85 and a standard deviation of 0.80. The means, standard deviations, and level of agreement of the perceptions of the respondents who received asynchronous online instruction are shown in Table 2 below.

Table 2. Means and Standard Deviations of Students' Perceptions of the Utility of Asynchronous Instruction³

| Item Number | Item | Rank | Mean | SD | Level of Agreement |
|-------------|--|------|------|------|--------------------|
| 2 | Using asynchronous instruction increases competition in the lesson. | 1 | 3.80 | 1.51 | High |
| 22 | I communicate more with my classmates in asynchronous instruction. | 2 | 3.75 | 1.37 | |
| 11 | Using asynchronous instruction encourages me to take notes during lessons. | 3 | 3.60 | 1.70 | |
| 10 | Asynchronous instruction is flexible to use in lessons. | 4 | 3.55 | 1.67 | Moderate |
| 4 | Asynchronous instruction enables me to answer more quickly in lessons. | 4 | 3.55 | 1.57 | |
| 18 | Using asynchronous instruction allows individual students opportunities to ask/ answer in lessons. | 6 | 3.45 | 1.67 | |
| 6 | Asynchronous instruction allows me to keep track of my progress in lessons. | 6 | 3.45 | 1.61 | |
| 1 | Using asynchronous instruction facilitates recalling information in lessons. | 8 | 3.40 | 1.67 | |
| 5 | Using asynchronous instruction helps me distinguish fact and opinion in lessons. | 8 | 3.40 | 1.67 | |
| 25 | Using asynchronous instruction is fun. | 8 | 3.40 | 1.47 | |
| 30 | Asynchronous instruction improves my skimming skill. | 8 | 3.40 | 1.47 | |
| 21 | Using asynchronous instruction encourages careful listening in lessons. | 12 | 3.35 | 1.27 | |
| 16 | Using asynchronous instruction improves my inference skill in lessons. | 12 | 3.35 | 1.46 | |
| 28 | Asynchronous instruction helps me better understand the lesson. | 12 | 3.35 | 1.27 | |
| 12 | Using asynchronous instruction encourages me to improve my performance in lessons. | 15 | 3.30 | 1.22 | |
| 13 | Using asynchronous instruction fosters my motivation for learning. | 15 | 3.30 | 1.72 | |
| 29 | Asynchronous instruction allows me more opportunities for studying in lessons. | 15 | 3.30 | 1.22 | |
| 24 | Asynchronous instruction improves my deduction skills. | 18 | 3.25 | 1.16 | |
| 3 | Using asynchronous instruction allows me to exchange information with my classmates. | 19 | 3.20 | 1.61 | |
| 9 | I am confident with asynchronous instruction lessons. | 19 | 3.20 | 1.61 | |

³ out of a maximum score of 5

| Item Number | Item | Rank | Mean | SD | Level of Agreement |
|-------------|---|------|-------|------|--------------------|
| 8 | Asynchronous instruction supports my learning of difficult topics. | 21 | 3.15 | 1.53 | |
| 19 | Asynchronous instruction improves my scanning skill. | 21 | 3.15 | 1.57 | |
| 23 | Using asynchronous instruction fosters my determination for success in lessons. | 23 | 3.00 | 1.21 | |
| 17 | I prefer using asynchronous instruction in lessons. | 24 | 2.650 | 1.42 | |
| 27 | Using asynchronous instruction fosters my interest in lessons. | 25 | 2.50 | 1.19 | |
| 14 | I feel bored in asynchronous lessons. | 26 | 2.40 | 0.82 | |
| 26 | I hate using asynchronous instruction in lessons. | 27 | 2.35 | 0.67 | |
| 20 | I feel embarrassed during asynchronous instruction. | 28 | 2.30 | 0.73 | Low |
| 15 | Using asynchronous instruction is not effective in lessons. | 29 | 2.15 | 0.81 | |
| 7 | Asynchronous instruction makes me uncomfortable. | 30 | 2.00 | 1.21 | |
| Overall | | | 3.13 | 0.91 | Moderate |

Table 2 reveals moderately favorable perceptions about the utility of asynchronous online instruction, with an overall mean of 3.13 and a standard deviation of 0.91. The means, standard deviations, and level of agreement of the perceptions of the respondents who received synchronous and asynchronous instruction combined are shown in Table 3 below.

Table 3. Means and Standard Deviations of Students' Perceptions of the Utility of Synchronous and Asynchronous Instruction Combined⁴

| Item Number | Item | Rank | Mean | SD | Level of Agreement |
|-------------|---|------|------|------|--------------------|
| 27 | Using synchronous and/or asynchronous instruction fosters my interest in lessons. | 1 | 4.15 | 1.31 | High |
| 28 | Synchronous and/or asynchronous instruction helps me better understand the lesson. | 1 | 4.15 | 1.31 | |
| 22 | I communicate more with my classmates in synchronous and asynchronous online instruction. | 1 | 4.15 | 1.09 | |
| 17 | I prefer using synchronous and/or asynchronous instruction in lessons. | 4 | 4.10 | 1.12 | |
| 18 | Using synchronous and/or asynchronous instruction allows individual students opportunities to ask/ answer in lessons. | 4 | 4.10 | 1.02 | |
| 25 | Using synchronous and/or asynchronous instruction is fun. | 6 | 4.00 | 1.26 | |

⁴ out of a maximum score of 5

| Item Number | Item | Rank | Mean | SD | Level of Agreement |
|-------------|---|------|------|------|--------------------|
| 10 | Synchronous and/or asynchronous instruction is flexible to use in lessons. | 7 | 3.95 | .83 | |
| 21 | Using synchronous and/or asynchronous instruction encourages careful listening in lessons. | 7 | 3.95 | 1.36 | |
| 24 | Synchronous and/or asynchronous instruction improves my deduction skills. | 7 | 3.95 | 1.28 | |
| 1 | Using synchronous and/or asynchronous instruction facilitates recalling information in lessons. | 10 | 3.90 | 1.37 | |
| 16 | Using synchronous and/or asynchronous instruction improves my inference skill in lessons. | 10 | 3.90 | 1.33 | |
| 12 | Using synchronous and/or asynchronous instruction encourages me to improve my performance in lessons. | 10 | 3.90 | 1.07 | |
| 4 | Synchronous and/or asynchronous instruction enables me to answer more quickly in lessons. | 13 | 3.85 | 1.18 | |
| 8 | Synchronous and/or asynchronous instruction supports my learning of difficult topics. | 13 | 3.85 | 1.27 | |
| 6 | Synchronous and/or asynchronous instruction allows me to keep track of my progress in lessons. | 13 | 3.85 | 1.18 | |
| 23 | Using synchronous and/or asynchronous instruction fosters my determination for success in lessons. | 16 | 3.80 | 1.28 | |
| 13 | Using synchronous and/or asynchronous instruction fosters my motivation for learning. | 16 | 3.80 | 1.01 | |
| 29 | Synchronous and/or asynchronous instruction allows me more opportunities for studying in lessons. | 18 | 3.80 | 1.28 | |
| 30 | Synchronous and/or asynchronous instruction improves my skimming skill. | 18 | 3.80 | 1.28 | |
| 3 | Using synchronous and/or asynchronous instruction allows me to exchange information with my classmates. | 20 | 3.75 | 1.16 | |
| 19 | Synchronous and/or asynchronous instruction improves my scanning skill. | 20 | 3.75 | 1.29 | |
| 2 | Using synchronous and/or asynchronous instruction increases competition in the lesson. | 22 | 3.70 | 1.17 | |
| 5 | Using synchronous and/or asynchronous instruction helps me distinguish fact and opinion in lessons. | 22 | 3.70 | 1.38 | |

| Item Number | Item | Rank | Mean | SD | Level of Agreement |
|-------------|---|------|------|------|--------------------|
| 11 | Using synchronous and/or asynchronous instruction encourages me to take notes during lessons. | 24 | 3.65 | 1.14 | |
| 9 | I am confident with synchronous and/or asynchronous instruction lessons. | 25 | 3.50 | 1.15 | Moderate |
| 15 | Using synchronous and/or asynchronous instruction is not effective in lessons. | 26 | 2.55 | 0.76 | |
| 7 | Synchronous and/or asynchronous instruction makes me uncomfortable. | 27 | 2.15 | 1.09 | Low |
| 14 | I feel bored in synchronous and asynchronous lessons. | 27 | 2.15 | 0.88 | |
| 20 | I feel embarrassed during synchronous and asynchronous online instruction. | 29 | 2.00 | 1.03 | |
| 26 | I hate using synchronous and/or asynchronous instruction in lessons. | 30 | 1.95 | 0.95 | |
| Overall | | | 3.59 | 0.85 | Moderate |

Table 3 shows moderately favorable perceptions about the utility of synchronous and asynchronous online instruction combined, with an overall mean of 3.59 and a standard deviation of 0.85.

Discussion of the Findings

This research examined Jordanian EFL learners' perceptions of the utility of synchronous and/or asynchronous online instruction. The findings revealed that the respondents have reported moderately to highly favorable perceptions of the utility of synchronous and/or asynchronous online instruction in foreign language education. The findings suggest that even though the reported favorable perceptions of the utility of synchronous and/or asynchronous online instruction, they reported a preference for synchronous online instruction to asynchronous and the combination of synchronous and asynchronous online instruction in foreign language education. These findings are consistent with those of Rinekso and Muslim (2020) who reported favorable attitudes towards using

synchronous online instruction in foreign language education.

These generally favorable perceptions toward synchronous and/or asynchronous online instruction may be attributed to the respondents' engagement in the activities and tasks observed throughout the treatment, which afforded them exciting possibilities to learn in an environment in which they engaged with the teacher, tasks, and their peers without impediment. Furthermore, in synchronous online learning, the participants were able to interact with the teacher's and each other's postings in a manner which not only fostered their engagement in lessons but also improved their ability to answer questions, as they were afforded opportunities for participation and self-expression.

As for asynchronous online instruction, the respondents' moderately favorable perceptions may be attributed to their ability to have relatively more control over their learning in terms of both timing and pace, as they are afforded opportunities for more personalized study and, eventually, the much coveted autonomous learning. This is consistent with previous reports (e.g., Scott, 2015) that students show enthusiasm about adopting asynchronous online instruction, as it potentially enables students to access a variety of resources to simulate autonomous real-life practice (e.g., Pinto-Llorente, Sánchez-Gómez, García-Peñalvo, & Casillas-Martín, 2017) through the provision of authentic materials by means of videos and non-commercial materials.

Prior to COVID-19, online instruction was never practiced in Jordanian public schools. Education in Jordan is essentially teacher-centered, and learners are hardly afforded opportunities to engage in autonomous learning or self-reliance in traditional face-to-face instruction. The reliance on the teacher as the sole source of knowledge may account for the difference in perceptions of synchronous and asynchronous online instruction, in favor of the relatively more teacher-mediated synchronous instruction. That may also account for the respondents' favorable, albeit moderately so, perceptions of the utility of a combination of synchronous and asynchronous online instruction in foreign language education, as it reportedly not only motivated them to finish the course but also boosted competitiveness and created a positive school culture.

That the respondents could get immediate feedback on their performance after every exercise has reportedly

encouraged them to work harder and to challenge themselves (e.g., Su, Bonk, Magjuka, Liu, & Lee, 2005) for better achievement, which has also enabled them to overstep their limitations and be better able to communicate with both their teacher and peers.

Conclusion, Pedagogical Implications, and Recommendations

The findings suggest that students favorably perceive synchronous and/or asynchronous online instruction, albeit to various degrees, which supports previous research findings (e.g., Adas & Abu Shmais, 2011; Altun, 2005; Huang & Hsiao, 2012; Lin & Gao, 2020; Sagarra & Zapata, 2008).

Being novice users, the respondents made the best of these modes of instruction in terms of fostering their own learning, which may readily explain the favorable perceptions of synchronous and/or asynchronous online instruction. The findings seem to suggest that, given the opportunity, EFL learners would make the best of three modes of online instruction, which would call on teachers to integrate online instruction into their more traditional face-to-face instruction, be it as a viable alternative or an invaluable supplement.

The researchers are heartened by the respondents' favorable perceptions of the utility of online instruction in foreign language education. The respondents' favorable perceptions indicate their potential acceptance of online instruction, which may be a catalyst for their learning and future scholarship. Learners, like all other humans, are generally resistant to change, but the current findings are very encouraging, especially the reportedly favorable perceptions of asynchronous instruction which not only places the

burden of learning on the learners but also denies them the luxury of the immediate feedback they have come to expect from their teachers.

In light of the findings, it is recommended that teachers make use of these modes of instruction, made popular during the closures brought about by COVID-19 but seem to be here to stay. This can be achieved only when the merit and know-how of online instruction be integrated into pre-service and in-service teacher training for teachers to be able to use online instruction for the betterment of teaching and learning alike, attitudes toward synchronous and asynchronous online instruction learning: While pupils have recognized the importance of e-learning, it is expected that not all pupils will jump on board right away.

As this is a follow-up to a quasi-experimental study in which the actual utility of synchronous, asynchronous, and a combination of synchronous and asynchronous online instruction in foreign language education is established, it is also recommended that research with a longer duration and more diverse target groups be conducted for clearer insights and more generalizable findings.

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