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Synchronous computer-mediated communication in English pronunciation teaching: A case study of Rovira i Virgili University

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Abstract
Remote learning has been in the spotlight since the emergence of the coronavirus pandemic, notably boosting the development of distance learning in the last two years; as universities were obliged to close worldwide and lecturers had to teach online during lockdown, the use of Synchronous Computer-Mediated Communication (SCMC) started to prevail. Pronunciation instruction was not an exception. Indeed, in-person lectures had used technology to support face-to-face (F2F) education by using videos and articles in class. However, educators had to adapt rapidly to teach through video-based platforms. Although much investigation has been conducted on Computer-Assisted Pronunciation Training (CAPT), and researchers currently show more and more interest in the use of new technologies within the pronunciation classroom, little research has been done regarding the teaching methodologies applied in teacher-guided online pronunciation instruction. Along these lines, this study examines English undergraduates' insights who took pronunciation courses remotely at Rovira i Virgili University during the COVID-19 crisis. Findings show that participants were highly satisfied with the adaptation of the course, rating all the activities and methods used above 4 on a scale of 5. Thus, pronunciation can be taught effectively via SCMC, although a larger sample is needed to reach more conclusive results.

Keywords: Synchronous computer-mediated communication; pronunciation teaching; English as a foreign language teaching; remote teaching; distance learning

[es] Comunicación síncrona mediada por ordenador en la enseñanza de la pronunciación inglesa: Estudio de caso en la universidad Rovira i Virgili

Resumen
El aprendizaje a distancia ha estado en el punto de mira desde la repentina aparición de la pandemia del coronavirus, impulsando de manera notable el desarrollo de dicho aprendizaje en los dos últimos años; como las universidades se vieron obligadas a cerrar a nivel mundial y los profesores enseñaron

virtualmente durante el confinamiento, el uso de la Comunicación Síncrona Mediada por Ordenador (CSMO) comenzó a prevalecer. La enseñanza de la pronunciación no fue una excepción: hasta el momento las clases presenciales se valían de la tecnología como soporte educativo para mostrar vídeos y artículos en clase, y el profesorado tuvo que adaptarse rápidamente a enseñar a través de programas de videoconferencias. Aunque se ha investigado extensamente en la enseñanza de la pronunciación asistida por ordenadores, y los investigadores muestran cada vez más interés en el uso de las nuevas tecnologías dentro de la clase de pronunciación, poco se ha investigado sobre las metodologías llevadas a cabo en la instrucción virtual de la pronunciación mediada por el profesor. En este sentido, este estudio examina las opiniones de los estudiantes del grado de inglés de la Universidad Rovira i Virgili que tuvieron que tomar sus cursos de pronunciación de manera remota debido a la crisis de la COVID-19. Los resultados muestran un alumnado altamente satisfecho con la adaptación del curso, puntuando todas las actividades y métodos usados por encima del 4 en una escala de 5. Por lo tanto, es posible enseñar pronunciación de manera efectiva por medio de CSMO, aunque se necesita una muestra mayor para llegar a resultados más concluyentes.

Palabras claves: Comunicación síncrona mediada por ordenador; enseñanza de la pronunciación; enseñanza del inglés como lengua extranjera; enseñanza remota; enseñanza a distancia

1. Introduction

Before the arrival of COVID-19 pandemic, traditional face-to-face (F2F) education had mainly used technology as an instrument to support lectures, but this had not been fully considered when planning courses (Gallego Trijuerque, Matarín Rodríguez-Peral & Fondon Ludella, 2020): teachers introduced online videos, articles, or recordings in their classes to practice different skills, but technology was not part of the learning setting. This situation changed when the COVID-19 emerged and educational institutions were forced to close students had to take their courses a hundred per cent virtually during lockdown, so lectures became entirely dependent on technology.

Since the pandemic arrived quite abruptly and unexpectedly, teachers did not have time to get ready for the change. In fact, in the beginning many of them did not have the experience, training and technical support to carry out their teaching properly (Bao, 2020; Hodges et al.; Zeinali Nejad, Golshan & Naeimi, 2021a; Quesada Vázquez, 2021; Rahiem, 2020; Rapanta et al, 2020). Guaranteeing that virtual teaching methods supported different learning styles was not an easy task indeed. Neither were students prepared to study from home (Rahiem, 2020): some of them did not even have the necessary resources to follow lectures online adequately. In addition, they had to adapt to the circumstances in record time in a period of global anxiety and unease, which negatively affected their motivation and concentration. Consequently, the effectiveness of virtual instruction has been highly questioned since then, and experts of different educational fields have conducted several studies to examine its effect on the students' learning process and their perception of virtual education. However, more research is necessary to analyze the participants' attitudes - both the teacher and the students'- towards this unfamiliar approach to teaching (Rahiem, 2020) to draw substantial conclusions.

1.1. The expansion of distance learning due to the COVID-19 pandemic

Distance learning is not a new approach: The impact of technology in education has been especially notable during the twenty-first century (Gallego Trijuerque et al., 2020) and instruction online has little by little find its place by increasing the flexibility of teaching and learning. This is not the only benefit detected: Many times online courses have allowed the use of a wide range of activities,

materials and resources that have "gamified" learning, which have ultimately enhanced student's autonomy as well as their communicative and social skills (Juárez Díez & Hinojosa Hernández, 2021). As a matter of fact, this technologically-based type of learning has proved to be successful, sometimes even more than F2F classes (Hodges et al.,2020). However, to guarantee its success, online learning should meet certain stakes. Distance teaching is not just a way of filling the spatial distance between students and the teacher by using technology to access materials, teach lectures and support learners through their learning process (Anderson, 2011, as cited in Rapanta et al., 2020); it needs previous preparation and design. If the teacher fails to program how to instruct, assess and provide corrective feedback in advance, the possibilities to carry out effective online teaching decrease.

This is essential to understand the concerns surrounding online teaching during the pandemic. The first lectures delivered virtually during the COVID-19 lacked programming, so teachers rushed to find online options for their students. For this reason, this particular adaptation of teaching to the exceptional circumstances of a crisis was classified as emergency remote learning. This concept is not new: emergency remote learning refers to any type of adaptation of instruction due to a crisis, such as natural disaster or a war (Hodge et al., 2020). It is required in extreme circumstances, so the course continuity tends to prevail over its effectiveness (Rapanta et al., 2020). However, ensuring learning becomes fundamental when the situation continues for months or years.

After a first phase of trial and error the second semester in the academic year 19/20, teachers had the opportunity to assess the measures taken and decide which ones should be kept in forthcoming online courses, and which ones had to be discarded and substituted. Hence, practitioners could use their experience to improve their sessions and aim at planning lectures that were more effective. In fact, during the academic year 20/21 those teachers who continued teaching online had more time to program their courses, and emergency remote teaching could improve its effectiveness. The transition to distance learning implied a progressive methodological change that needs to be reflected on in order to guarantee efficient learning (Gallego Trijuerque et al., 2020), starting with the role of the teacher.

1.2. The teacher's role in distance learning

Despite not being physically in class, teachers keep being the conductor of their courses when teaching online: they are the ones in charge of planning, implementing and evaluating their instruction (Carr-Chelman, 2016, as cited in Rapanta et al, 2020). Course design, hence, still implies decision-making and problem-solving, with its focus on students' needs and learning styles (Gomede, Miranda de Barros & de Souza Mendes L., 2020): As for F2F lessons, practitioners need to establish clear learning objectives, organize the content wisely, control workload to avoid both the teacher's burnout and student's dropout, and offer relevant and updated content (Bates, 2019, as cited in Rapanta et al. 2020); but they also have to examine the different ways their students learn, as some might be more visual, others more verbal, some might prefer working on their own, others in groups, and so on.

Although practitioners and students do not share the same physical space, which inevitably affects interaction and real-time communication, teachers keep being present throughout the learning process: First, they have to make sure that students are well prepared to take a course online by checking that they have all the necessary technical support to follow the course. Second, teachers have to provide means to maintain communication in spite of the physical distance. By means of synchronous sessions, email communication or chat messages, among others, teachers should enhance interaction with the the students. Finally, instructors have to both teach and mentor learners, providing the necessary instructions and follow-up on the tools to use for a proper functioning of the course (Moser, Wei & Benner, 2021; Rapanta et al., 2020).

Collaboration between teachers and students is essential to guarantee effective learning. Along the lines of Long's Interaction Hypothesis of second language acquisition (SLA), input and interaction are crucial for the development of language proficiency (Nguyen, 2020). Hence, it is key that online instructors ensure learning exchange in their courses. There are several mechanisms to keep intercommunication online. However, it is important to examine which tools are more effective as far as learning development is concerned, since there is no solid pedagogical framework regarding virtual education (Rapanta et al. 2020).

1.3. Synchronous vs. asynchronous teaching

The use of either synchronous or asynchronous methods offers common ground of discussion when it comes to analyse the effectiveness of teaching mechanisms in distance learning. At the beginning of the pandemic, many teachers opted to use asynchronous tools and techniques to teach their lectures, using synchronous sessions via videoconference mainly for doubt solving. As mentioned in the introduction, teachers had not received training on distance education and they did not have the right resources to cope with the situation. In addition, the arrival of the pandemic implied an exponential work overload and, consequently, a vast majority of the teaching staff worldwide were showing signs of burnout. Hence, the use of asynchronous tools helped teachers to make their workday more flexible and find some balance between their work and personal lives (Rapanta et al., 2020).

On the other hand, combining both asynchronous and synchronous teaching techniques brings the possibility to use a wide range of activities that students will find beneficial: while asynchronous activities can boost self-study, critical thinking and individual feedback, among others, online meetings can enhance discussion, collaborative thinking and instant feedback. In fact, some researchers suggest that balancing these two methods of distance learning might help students make the most of their time, organize content, and apply different studying skills to meet their learning goals successfully (Moser et al., 2021; Zeinali Nejad et al., 2021a). Therefore, using both techniques stands out as the most suitable method to deal with online classes (Zeina et al., 2021b).

However, how many and which type of asynchronous and synchronous activities teachers have to use in a course are not easy questions to answer. According to Hodges et al. (2020), class size might be key to take these decisions: in large groups, practice and feedback are subjected to time constraints that might worsen due to bad Internet connection. Moreover, these will contribute to providing little feedback, as the instructor might not be able to guarantee group practice, and individual feedback might take too long. In this case, then, opting for asynchronous group and individual activities so that everybody has the time to work on the task and the teacher has the time to correct seems to be a better choice. In fact, experts agree that asynchronous computer-mediated communication (ACMC) is traditionally more dominant in online learning (Zeinali Nejad et al., 2021a; 2021b). However, relying mainly on asynchronous activities might be dangerous, as it might jeopardize the interaction between the students and the teacher, or among learners themselves, which can be particularly detrimental for social learners. In fact, young students usually need a thoroughly follow-up from their teachers and share their thoughts with other classmates, which is difficult when communication is carried out via asynchronous means, such as email and forum messages. Besides, the instructor helps learners link concepts and encourage them through the learning process (Juárez Díez & Hinojosa Hernández, 2021; Zeina Nejad et al. 2021b). Additionally, instant feedback might be necessary at times to ensure learning (e.g., extemporaneous and communicative practice when learning a second language). Thus, online instructors, as F2F ones, need to take a close look to the students' profile and the competence to practice before applying a teaching method.

1.4. New challenges in CALL: SCMC in pronunciation teaching

Distance learning is especially present in language teaching. A lot of research has been conducted on computer-assisted language learning (CALL), a field of study in which computer-assisted pronunciation training (CAPT) has its own line of work. Online tools, applications, and automatic speech recognition (ASR) devices are some of the multiple mechanisms that help language learners improve their pronunciation (see Calvo Benzies, 2017; O-Brien et al., 2018; Walker, 2014 for a review), which encourage autonomous learning through fast feedback (Nguyen, 2020). Hence, they become interesting tools to support students' acquisition of second language pronunciation. Nevertheless, using these devices and other teaching techniques effectively in class needs further study.

Practicing pronunciation when learning a second language is not always an easy task in F2F lectures, nor in online sessions. Pronunciation improvement takes time, and needs close feedback and constant practice. Therefore, it is important that online instructors search the right mechanisms to implement CAPT in their lectures. In spite of the fact that nowadays there are many free and user-

friendly tools to teach pronunciation online (Krishnan, 2020), practitioners have to teach students how to use them and the purpose for which these should be applied, constantly accompanying students throughout their learning progress. Otherwise, learners might get lost and demotivated (Juárez Díez & Hinojosa Hernández, 2021).

This becomes especially important when teaching undergraduates that used to take courses in person. Despite being digital natives, university students who experienced online learning during lockdown were not "trained" to study from home through a computer. Consequently, learning how to transcribe on a laptop, or practice segmental and suprasegmental features through a screen are complex skills to assimilate in limited time. In this case, close interaction between the teacher and the learner becomes crucial.

The use of SCMC in online pronunciation teaching could fill the virtual gap. There are many ways to communicate synchronously with students – video-conferencing, instant messages, or chat rooms are just a few (Nguyen, 2020). By using some of these tools, teachers encourage active participation and collaborative learning, creating a social context that is beneficial for language acquisition. In fact, SCMC can somehow simulate F2F lectures, being able to alleviate the students' stress caused by the new setting (Lin, 2015; Nguyen, 2020; Zeina et al, 2021a; 2021b).

Some recent studies support the use of SCMC in pronunciation teaching. Zeina et al. (2021a) conducted a quasi-experimental study with English for Specific Purposes (ESP) medicine undergraduates at the University of Kerman, Iran. Students were divided into two groups: One group took classes synchronously via video-calls, while the other took them asynchronously through voice messages and emails. Students took a written pronunciation pre and a posttest and participated in a semi-structured interview. Results not only revealed a positive effect on students' pronunciation when using CMC, but also a greater improvement for the synchronous group. In another study, Zeina et al. (2021b) examined forty-five female Persian learners of English who took a test on phonemic discrimination and lexical stress. Three groups were created according to the means by which they received instruction: F2F (control group), ACMC, and SCMC. Again, both experimental groups performed better than the control group, and the SCMC group showed more signs of improvement. Thus, SCMC seems to be beneficial for pronunciation learning even though more research needs to be conducted.

Along these lines, the following study examines the students' opinions on the effectiveness of some of the measures taken to adapt university pronunciation classes to an entirely online setting owing to the COVID-19 pandemic. The study aims at answering the following research questions:

Q1. Did students consider synchronous computer-mediated communication (SCMC) effective?
Q2. Did students consider SCMC more effective than some of the other measures taken to adapt the course to an online setting?
Q3. To what extent did the online adaptation of the course affect learners' academic performance?

2. Methodology

This classroom-based study examines English undergraduates' insights on the adaptation of their pronunciation courses to remote learning due to the COVID-19 crisis. This paper will investigate 3rd-year learners' opinions about the activities and methods used during SCMC of two different but intertwined subjects of the English Bachelor's degree in Rovira i Virgili University (Tarragona, Spain): Sound System I (SSI), based on the study of vowel sounds, and Sound System II (SSII), focused on consonant sounds and suprasegmental features (i.e., rhythm and intonation). To this end, a quasi-experimental study was conducted in which students of 3 consecutive semesters [learners who took SSII in 19/20 (G1), learners who took SSI in 20/21 (G2) and learners who took SSII in 20/21 (G3)] were surveyed to find out the effectiveness of the measures adapted for virtual instruction, especially those related to SCMC (for more information about treatment, see section 2.2). A questionnaire, hence, was designed and sent to students via the course's virtual campus once the lectures were over. Students' answers for each course were compiled and both quantitative and qualitative data were analyzed: the means and standard deviations of 5-Likert scales were measured for comparative purposes and complemented with students answers to open questions.

2.1. Participants

16 out of the 48 students enrolled in SSII in 19/20, and 19 out of 59 from SSI and 5 out of 54 from SSII in 20/21 took the questionnaire (i.e., 40 out of a total of 161 learners). Only students who took the continuous assessment were asked to fill in the survey, as they were the ones who experienced virtual classes. As displayed in Table 1, most of the students who participated in the study were Spanish between 20 and 21 years old. There were more female students in class, so it is not surprising that more women answered the questionnaire, although for the last semester there were more men who took the survey:

Table 1.
Participants' profiles

	Age		Gender		Nationality									
	20-21	+ 21	F	M	Al	Br	Bu	Co	I	Mo	Pe	Ro	Sp	N/S
SSII 19/20 (G1)	11	5	11	5	1	1	1	0	1	1	1	0	10	0
SSI 20/21 (G2)	14	5	12	7	0	0	0	1	0	0	0	1	16	1
SSII 20/21 (G3)	3	2	1	4	0	0	0	0	0	0	0	0	5	0

Note. F= Female. M = Male. Al = Algerian. Br = British. Bu = Bulgarian. Co = Colombian. I = Irish. Mo = Moroccan. Pe = Peruvian. Ro = Romanian. Sp = Spanish. N/S = Not specified.

As the questionnaire was anonymous, we do not know if the students who took the survey for SSII in 20/21 took also the previous one on SSI. However, 3rd-year students had to take both courses compulsory, so it is most likely that it is the case.

2.2. The course

G1 started remote learning in the middle of the semester when the pandemic emerged. Hence, half of the course was taught in-person, whereas the other half was taught online. On the other hand, G2 and G3 took both courses 100% virtually. Consequently, the adaptation of the course in each academic year differed slightly, and both the students' academic performance and the first survey results were taking into consideration when designing the courses in 20/21.

As shown in Table 2, SSII in 19/20 combined asynchronous theoretical and practical -both production and transcription- sessions, while synchronous communication was carried out once a week for an hour to solve doubts. G1 students had to watch the theory narrated PowerPoint Presentations and submit the corresponding transcription exercises during the week. Then, the teacher uploaded a PowerPoint presentation with corrections and comments on their work using transcription sample extracted from their submissions, which students had to watch before the weekly meeting. Synchronous sessions were limited because, on the one hand, students were experiencing anxiety and unease due to the abrupt arrival of the pandemic and, on the other hand, they were not used to spending so much time in front of a screen paying full attention (Hodges et al, 2020). In addition, not everybody had access to the right technology to follow lectures live. Therefore, making studying more flexible in terms of time and place seemed more convenient for learners.

Table 2.
Measures taken to adapt the courses to an online setting

Course	Theory	Practice	Assessment
In-person	Theory Lectures	Production and transcription exercises in class	3 written exams (T1: 20%; T2: 10%; T3: 15%) 1 oral test (15%) 10 recordings (25%) Attendance (5%) Participantion (10%)

			Passing grade: 60%
Online 19/20	Narrated PowerPoint presentations	Production: Videos Transcription: Online transcription keyboard; PowerPoint presentations	1 written exam (45%) 1 oral test (15%) 10 recordings (25%) Attendance (5%) Participantion (10%) Passing grade: 50%
Online 20/21	Narrated PowerPoint presentations	Production: Videos PowerPoint presentations used in synchronous sessions Transcription: Online transcription keyboard; synchronous transcription sessions	3 written exams (T1: 20%; T2: 10%; T3: 15%) 1 oral test (15%) 10 recordings (25%) Attendance (5%) Participantion (10%) Passing grade: 60%

Note. T = Test.

In 20/21 students were more used to studying online and had managed to obtain the necessary technological support in order to attend classes live. Thus, weekly synchronous sessions lasted two hours and full transcription and production practice was included. Nevertheless, flexibility remained being essential to guarantee G2 and G3 learners' follow-up, so narrated PowerPoint presentations kept substituting theory lectures.

2.3. The questionnaire

The survey was designed with Google Forms and sent at the end of the semester through the virtual campus. Students were informed that, by taking the questionnaire, they were giving consent to become participants of the study, and that they will remain anonymous. The survey consisted in seven different sections: background information, theory lectures, practice sessions, extra activities, assessment of the course and general opinion on their experience with distance learning. For the questionnaires of G1 and G2 an exam training session was included, as students were trained synchronously to take the exam online (the exam of G3 followed the same guidelines as the ones used for the first semester, so no special training was needed).

The four first questions on section 1 outlined the participants' profile, while the rest of the answers examined their opinions on the virtual adaptation. Sections 2-4 included questions on theory, practice and problem-solving techniques and tools respectively. Each section was made up of a set of yes-no questions, asking about their satisfaction on the different remote methods and resources used, whether the measures adopted were enough, and whether there could have been better measures to be taken, together with a 5-point Likert scale evaluating the usefulness of each element. Two open questions were also included so that students could justify their answers and recommend possible alternatives if needed.

The last three sections focused on the supporting material, the course assessment and the general learning process. Section 6 examined the extra activities performed as supporting material via yes-no and open questions. On section 7, students had to state whether the assessment activities were well adapted to the virtual setting and justify their answers. Finally, section 8 focused on, on the one hand, the technological difficulties they may have experienced and whether they felt demotivated and willing to drop out during the course, and, on the other hand, their overall satisfaction on the course and its virtual adaptation, using both yes-no and 5-point Likert scale questions.

The substantial changes in synchronous communication in class slightly modified some of the questions of the survey. For example, in the practice section, the survey conducted in 19/20 contained a question regarding the PowerPoint presentations used to show students corrections on their transcriptions, while the surveys on 20/21 included enquiries about the transcription and production practice carried out during the weekly synchronous sessions.

2.4. Data analysis

This paper focuses on analyzing the results obtained in the yes/no and 5-point Likert scale questions related either directly or indirectly to SCMC application in the three courses under study. Means, standard deviations and percentages were measured, and these quantitative data was complemented

with students' answers to open questions. Participants' comments were only grammatically corrected when comprehension was jeopardized.

3. Results and discussion:

For the three semesters, theory was explained through narrated PowerPoint presentations uploaded weekly on the virtual campus. The presentations were available on Monday and students had until Friday to watch them. Either they could use the forum on the virtual campus to ask doubts regarding the content, or they could ask their questions directly to the teacher during Friday's synchronous meeting. As observed in Table 3, the average of the efficiency of this measure obtained an average mark above 4 out of 5 in every course:

Table 3.
Answers to the question: How helpful were class PowerPoint presentations with the teachers' explanations recorded to keep learning from the course?

	Narrated PowerPoint Presentations	
	M	*SD*
SSII 19/20 (G1)	4.56	0.61
SSI 20/21 (G2)	4.26	0.87
SSII 20/21 (G3)	4.2	0.84

Note. *M* = Mean. *SD* = Standard Deviation.

However, four G2 students, and one from G3 claimed that, although these presentations were effective, they were missing the interaction with the teacher, so they would have preferred to have some synchronous classes instead:

> "I would have preferred to have the theory classes virtually by Teams or the teacher could have used an app called 'active presenter' so that during the theoretical presentation we could see her face and not only her voice because it is very monotonous." *(Student 1 G2*)
> "This is more of a personal choice. I don't think they were any bad at all, but there's nothing as a class where the teacher properly explains everything at his/her own pace, giving more time to things that students may have not understood well enough or responding questions." *(Student 2 G2)*

G1 Students considered that it was a good and sufficient measure to adapt theory to remote learning, but one of them also commented on this fact:

> "Apart from PowerPoints with the voice recorded and the sessions to solve doubts, I think that some virtual classes to explain some aspects would have been a good idea." *(Student 1 G1)*

These opinions are in line with Juárez Díez and Hinojosa Hernández (2021) and Zeina Nejad et al. (2021b), as some students would have rather had SCMC to keep interacting with the teacher and engage into "live" discussion with her. Most likely, the reason why students who suffered the abrupt emergence of the pandemic did not need SCMC that much to follow their courses was that they had to get used to virtual teaching in record time, which caused them high peaks of anxiety and unease. Hence, being able to watch and listen to the sessions whenever they were feeling fine was important to follow the course efficiently. Students in the academic year 20/21 had already experienced the lockdown and they needed human interaction, since they were missing socializing at university. Besides, they could see the teacher's face reaction and that might have helped improve comprehension as well (Ngyen, 2020). Therefore, students consider participating in synchronous sessions beneficial for their learning process.

Indeed, SCMC was highly valued every year (See Table 4). Whether weekly online sessions focused mainly on problem solving, or full lectures were delivered, learners found them very useful, probably because it was their opportunity to interact with the teacher and the rest of their classmates:

Table 4.
Answers to the question: How helpful were weekly online meetings useful to keep learning from the course?

	Weekly online meetings	
	M	*SD*
SSII 19/20 (G1)	4.4	0.61
SSI 20/21 (G2)	4.32	0.89
SSII 20/21 (G3)	4.8	0.45

Note. *M* = Mean. *SD* = Standard Deviation.

Although the sample population is smaller than for previous terms, G3 students were the ones who rated these sessions higher and there was more consensus among the participants (*M* = 4.8; *SD* =0.45). During that semester, weekly sessions lasted two hours in which students did not only solve doubts, but also learned how to transcribe online and practiced their production and listening discrimination skills obtaining instant feedback from the teacher. The same system was followed the previous semester, but at that time students had been practicing for 6 months only. Hence, they probably felt more comfortable and confident with the session functioning in the second semester. Moreover, in G3 online sessions students also learned how to notate intonation via interactive PowerPoint presentations that they could edit, which they also found highly beneficial (see Table 5):

Table 5.
Rating of synchronous activities during the academic year 20/21

	Transcription		Production		Intonation	
	M	*SD*	*M*	*SD*	*M*	*SD*
SSI	4.11	0.99	4.16	0.76	N.A.	N.A.
SSII	4.8	0.45	4.8	0.45	4.8	0.45

Note. *M* = Mean. *SD* = Standard Deviation. N.A. = Not Aplicable.

As a whole, SCMC looked more similar to pre-pandemic in-person lectures: Students could interact with the teacher by volunteering to transcribe on a Word document that all the students could edit. The instructor showed the file on the screen and the rest of the attendees commented on the corrections. Additionally, to collaborative practice, self-study and individual work was also present, as learners should transcribe on their individual Word documents while the volunteers were transcribing live. Hence, SCMC helped students with different learning styles (visual, verbal, logical, interpersonal, etc.) to get engaged in their learning process. Nevertheless, some students pointed out that 2-hour online sessions were tiring:

> *"*However, I do think that doing a 2-hour class online is not as productive as if we were doing it at the university. Besides, for us it's difficult to spend 2 hours in front of a computer." *(Student 3 G2)*
> "First I would have preferred to do some theory classes of 1h or something. And also, in my opinion, 2 hours of meeting is quite long - there is a moment in class that you get lost and you never come back to pay attention." (*Student 4 G2).*
> "I do think every teacher has tried to do their best in adapting this course. However, I think that doing 2 hours of class in front of a computer is really exhausting; even if I really liked this course, my concentration and performance after 1 hour was reduced. I think that doing maybe 30 minutes less would be a huge improvement and the output would be much better (…)." (Student 5 G2)

Learners' attention diminished after the first hour of synchronous sessions. Although classes did not lasted the full two hours -the session finished after an hour and forty-five minutes-, a break might have been useful to guarantee that learners stayed focused and, hence, take full advantage of SCMC.

Despite these nuisances, learners felt highly satisfied with the adaptation of the course to remote learning (see Table 6):

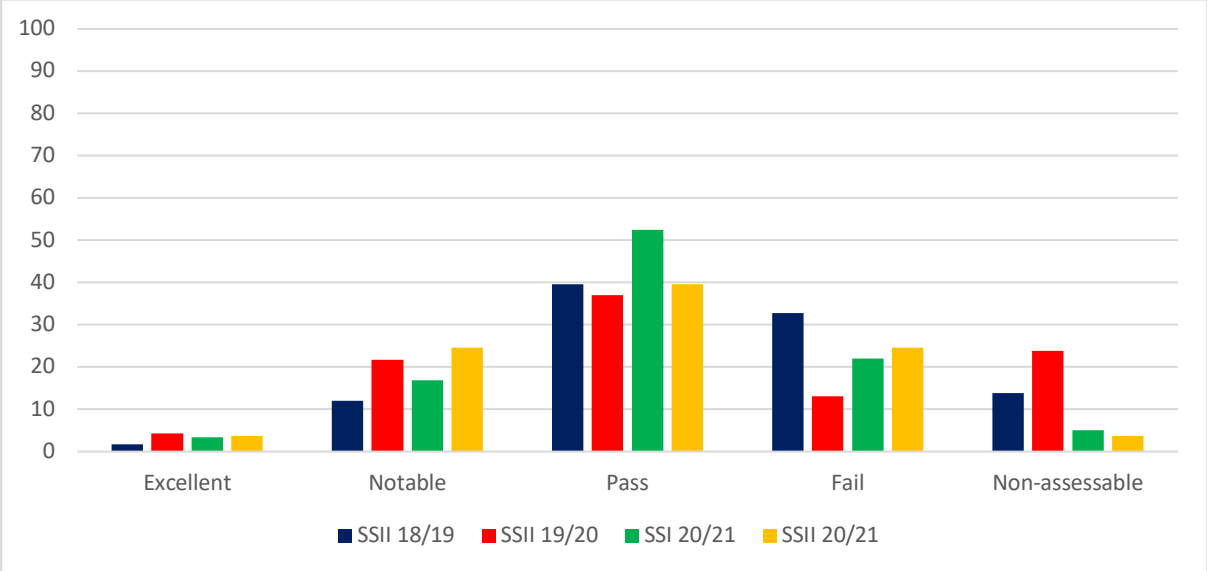
Table 6.
Answers to the question: From a global perspective, how satisfied are you with this course?

	Global satisfaction	
	M	*SD*
SSII 19/20 (G1)	4.34	0.72
SSI 20/21 (G2)	4	0.82
SSII 20/21 (G3)	4.2	1.1

Note. *M* = Mean. *SD* = Standard Deviation.

G2 students were the most critical, as shown in their answers to the different questions included in this paper, and the comments provided in the open questions. It needs to be born in mind that these learners where the ones who did not have any in-person instruction on phonetics, so they were not only learning transcription for the first time, but they also had to learn how to transcribe online. They had to familiarize with a lot of symbols, match the graphemes with the corresponding sounds and, besides, learn how to pronounce them correctly. However, after a semester studying pronunciation online, they seemed to gain confidence and enjoy how classes were arranged more, as G3 results suggest.
Regarding academic performance, online students obtained better results than those obtained during F2F education:

Figure 1.
Students' academic performance



Note. Results are expressed in percentages (%). SSII 18/19 - 100% in-person; SSII 19/20 (G1) - 25% in-person and 75% remotely; SSI (G2) and SSII (G3) 20/21 - 100 % remotely.

As displayed in Figure 1, the number of learners who passed the course increased: in 18/19, when students attended lectures in person, 53.45% of the students passed, while in the following academic years more than 60% of the class did (G1 = 63.03; G2 = 72.88; G3 = 67.92). Interesting enough, there were more G2 students with a passing grade in spite of some of their skepticism on remote learning efficiency.

Those who received virtual instruction also obtained better grades, since the number of excellent and notable grades overcome those of F2F students. Besides, the number of learners who dropped out decreased in virtual education except for G1, who suffered the emergence of the pandemic, and many students felt overwhelmed to cope with their studies. These results support Zeina et al. (2021a; 2021b) findings in which online learning was found more effective for pronunciation teaching.

4. Conclusiones

Based on the present results, English undergraduates students of pronunciation at Rovira i Virgili University were highly satisfied with the adaptation of the course to the online setting, especially as far as SCMC is concerned. SCMC seemed to boost students' learning process, as lectures activated students' interplay and reinforced teacher-learner communication, which allowed collaborative learning, extemporaneous discussion and instant feedback. These findings reinforced Zeinali et al. (2021a; 2021b), who found synchronous pronunciation teaching more effective than F2F or ACMC, and further underpins other studies that highlight the social presence of the teacher in distance learning (Juárez Díez & Hinojosa Hernández, 2021; Lin, 2015; Nguyen, 2020). ACMC measures, such as narrated PowerPoint presentations, were also highly rated. However, these were preferred at the beginning of the pandemic, when students felt more overwhelmed, since they had to quickly adapt to online instruction.

The more time students spent at home taking virtual sessions, the more they advocated for synchronous sessions. These results are in line with those studies that endorse a balance of both asynchronous and synchronous activities, and/or a deep analysis of the students' needs to assure learning when taking courses online (Hodges et al, 2020; Moser et al., 2021; Quesada Vázquez, 2021; Rapanta et al., 2020; Zeinali et al, 2021a). Nevertheless, only 25% of the students who took the pronunciation courses online participated in the study. Hence, a larger sample would be needed to obtain more conclusive findings. Although this study was conducted during the COVID-19 pandemic, it aims at show more light on the teaching strategies to apply when teaching pronunciation online and serve as a roadmap for those practitioners who struggled or are still struggling with online pronunciation instruction. As Gallego Trijueque et al. (2020) stated, the analysis of the measures adopted during this health emergency crisis should be part of a process to readjust teaching to the new demands of the digital world in which we are immersed.

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Conflict of interest

The author declares no conflict of interest in the design of the study; in the collection, analysis, or interpretation of data; in the writing of the manuscript, or in the decision to publish the results.