

Emergency Remote Teaching

– Students’ Expectations and Perceptions of Online Classes –

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本論文では、2020年度の春学期に実施した、受講者のオンライン学習環境、希望する授業のスタイル、オンライン学習に対する満足度を調査した3つの調査の結果を示す。調査結果によると、学生の大多数はノートパソコン（ラップトップ）でオンライン授業にアクセスしたが、スマートフォンを使用する傾向も高かった。また、学期が進むにつれて、学生はオンデマンド授業と双方向授業の機能を組み合わせた授業（スタイル）を好むようになった。さらなる調査結果によると、学生は一般的にオンライン学習に満足していたが、インターネットの無制限データプランを持っている学生とそうでない学生との間に満足度における（統計的）有意差が見られた。

This paper presents findings from three surveys conducted during emergency remote teaching and learning in the spring semester of the 2020 academic year. The surveys investigated students’ online learning environments, the style of lessons they preferred, and their levels of satisfaction with learning online. The findings indicated that while the majority of students accessed their online classes using laptops, there was an increasing tendency to use smartphones. It was also found that as the semester progressed students increasingly preferred lessons that combined features of on-demand and interactive approaches. Further findings indicated that while students were generally satisfied with their online courses, there was a significant difference in satisfaction levels between students who had unlimited data plans and those who did not.

Introduction

In early 2020, the education systems of many countries were thrown into disarray because of the coronavirus outbreak. In Japan, Prime Minister Abe Shinzo’s February 27 announcement that schools nation-wide would close ushered in an abrupt end to the academic year and brought confusion to educators and students alike (“PM Abe Asks All Schools,” 2020). With the subsequent academic year slated to begin in April, anxiety levels remained high throughout March. However, it wasn’t until April 7, when Abe declared a state of emergency, that many in the education sector in Japan began coming to terms with the need to conduct lessons online (“Japan PM Abe Declares,” 2020).

By this point in North America, most schools had been closed since the spring break holiday (typically the second or third week in March) and many educators quickly realized that, in order to complete the academic year by June, classes would have to be held online. The changes in education brought on by the coronavirus pandemic were being described in the media as a “pivot to online classes” (Ruckstuhl & Jarmanning, 2020). However, this expression completely misrepresented the chaos that educators and students endured as they tried to finish the academic year.

Unfortunately, Japan was not spared from a similar upheaval in its education system. In fact, some analysts predicted Japan would have a particularly difficult time adopting online learning environments because of a lack of educational technology support and red tape (Kittaka, 2020). While only 5% of local governments planned to approve online lessons for closed public schools (Hata, 2020), two-thirds of public universities and over one-third of private universities planned to conduct lessons online (“Over Half of Univ. Students,” 2020).

In many cases, at the university level, this rapid shift to online learning resulted in the complete overhaul of syllabi and lesson plans and delayed starts to the school year. While the terms “online learning” and “online teaching” were widely used at first, it became apparent that what was developing was quite unlike traditional online education. By the end of March 2020, the term emergency remote teaching (ERT) emerged as a more appropriate expression of the realities of teaching during a pandemic (Milman, 2020). Hodges et al. (2020) offer an excellent discussion of it:

Many active members of the academic community, including some of us, have been hotly debating the terminology in social media, and "emergency remote teaching" has emerged as a common alternative term used by online education researchers and professional practitioners to draw a clear contrast with what many of us know as high-quality online education. Some readers may take issue with the use of the term "teaching" over choices such as "learning" or "instruction." Rather than debating all of the details of those concepts, we selected "teaching" because of its simple definitions—"the act, practice, or profession of a teacher" and "the concerted sharing of knowledge and experience,"—along with the fact that the first tasks undertaken during emergency changes in delivery mode are those of a teacher/ instructor/ professor. (para. 6)

Emergency Remote Teaching

Generally, when online courses are offered at the university level, there are certain technical requirements that students must meet such as adequate computers and peripheral devices, sufficient (often unlimited) access to the Internet, and up-to-date computer software. However, with ERT these could no longer be applied. Instead, instructors were asked to plan lessons that accommodated students who had devices ranging from personal computers to smartphones and internet access ranging from unlimited data plans to no plans at all. Even faculty found themselves in situations with inadequate access to technology required for successful online teaching.

A study by Kumar et al. (2019) found that the most effective online courses were thoughtfully designed and planned. From inception to implementation, university level online courses generally take six to nine months to plan, prepare and develop (Hodges et al., 2020). In Japan, faculty were given only a few weeks (or in some cases a few days) to consider how their courses would be implemented and many instructors were far from comfortable using technology.

Another key difference between online learning and ERT is that students freely choose to participate in online learning. Students seek out online courses and find topics, content, or areas of research that match their learning goals. There is no free will with ERT. The pandemic has forced us all into uncharted territory where the only choice is to make the best of a bad situation.

Purpose

The purpose of this study is to help guide the decision-making process regarding online course design that best matches students' desires and expectations. To better understand students' opinions about ERT and the types of classes they want, a survey was conducted three times during the spring semester. The purpose of this survey was to shed light on the following aspects of online learning:

1. The conditions under which students are accessing their online classes.
2. Students' preferences in terms of lesson style and content delivery.
3. The extent to which students are satisfied with their online learning experiences.

Participants

First and second year students who were taught by the author of this study participated in the surveys. While the majority of students were enrolled in English courses, one group of respondents (approx. 31) were from a homeroom class (自主創造の基礎1) taught mainly in Japanese.

Method

Surveys were conducted three times (early May, late June, and late August) during the spring semester which ran from the beginning of May to the end of August in 2020. The surveys were conducted using Google Forms and distributed to students as a link posted in the stream of Google Classroom. To minimize misunderstanding, the surveys were conducted in English and Japanese. In order to form a basis of comparison between surveys, students were asked to include their student identification number. Therefore, the surveys were not fully anonymous. However, students were instructed that the surveys were optional and would not be used in the evaluation of their grades for the course they were enrolled in.

Survey 1 (S1) responses were initially collected from 103 first year and 38 second year undergraduate students (N=141) before the beginning of the semester in May 2020. When Survey 2 (S2) was conducted at the end of June 2020, the number of responses dropped to 113 (83 first year, 30 second year). At the end of August 2020, when Survey 3 (S3) was conducted, the total number of responses was 102 (73 first year, 29 second year). Table 1 shows the breakdown of responses for each survey.

Table 1: Response breakdown

Survey	First year students	Second year students	Total responses
Survey 1 (S1)	103	38	141
Survey 2 (S2)	83	30	113
Survey 3 (S3)	73	29	102

In order to better understand the challenges students faced in this new online learning situation, S1 asked them to describe such things as their home study environments, device access, internet data plans, and experience studying online. Students were also asked to describe the type of lessons they'd like to receive and to share opinions or concerns about studying online. S2 and S3 asked many of the same questions but also asked them to rate their overall online learning experiences on a scale of 1 to 10 (1 being lowest or extremely unsatisfied and 10 being highest or extremely satisfied).

Results

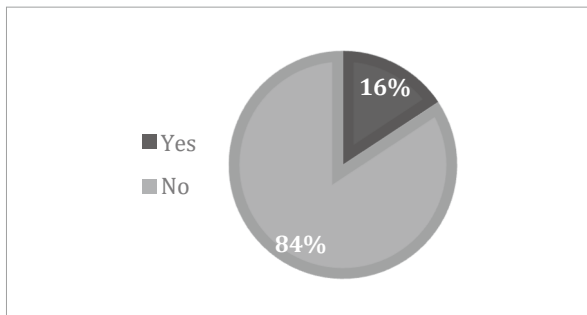


Figure 1 - Percentage of students with experience studying online

Less than a fifth (16%) of respondents indicated that they had experience studying online prior to ERT, which will probably not come as a surprise to teachers based in Japan. However, when the surveys of students who had responded in the affirmative were further analysed, it became apparent that the number who had actually studied online was probably lower than 16% because some students listed software programs such as Excel, Windows 10, and Google

Translate as the programs they had used to take their online lessons, which indicates they may have misunderstood the meaning of 'online lessons'.

Table 2 indicates the types of devices that students had available in order to access their online courses. In all surveys, the majority of students responded that their primary device for studying was a laptop computer. It is interesting to note that by S3, the number of students using smartphones to access their online lessons rose by almost 6% over S1.

One of the biggest concerns that educators face when trying to decide the best method to deliver their online lessons has to do with the amount of internet data students have access to. Students with data limitations would be adversely affected by lessons that depended on a large amount of data usage, such as real-time participatory lessons and activities conducted using video conferencing software. Table 3 shows the percentage of students who had access to unlimited data plans compared to those without. A steady downward trend can be observed in the case of students who had access to unlimited plans.

Students were asked to choose the type of lesson they hoped to receive based on five options: on demand, live, interactive, combined interactive and on demand, and materials and assignments sent by email. Brief descriptions were provided for each type of lesson. On-demand lessons were described as asynchronous lessons in which teachers record audio or video files that are made available to students online. These lessons can be classroom type recordings (a teacher in front of a blackboard), single screen recordings (a recorded computer screen, also known as a screencast), and document synchronization recordings (PowerPoint presentations with synchronized video or audio). These lessons are usually self-paced but follow a fixed assignment and testing schedule. Live lectures were

Table 2: Devices used for online studying

Device used for studying	S1	S2	S3
Laptop (portable computer)	73.6% (n=103)	71.7% (n=81)	69.6% (n=71)
Desktop	4.3% (n=6)	4.4% (n=5)	4.9% (n=5)
Tablet	9.3% (n=13)	11.5% (n=13)	6.9% (n=7)
Smartphone	12.9% (n=18)	12.4% (n=14)	18.6% (n=19)
Total responses	N=140	N=113	N=102

Table 3: Internet data

Internet data	S1	S2	S3
Unlimited	86.9% (n=119)	78.8% (n=89)	71% (n=71)
Limited	13.1% (n=18)	21.2% (n=24)	29% (n=29)
Total responses	N=137	N=113	N=100

described in similar terms to on-demand in that they can be a classroom type, screencast type or document synchronization type. However, the main difference is that these lessons are synchronous and delivered in real-time using a streaming service like YouTube Live (or possibly Google Meet or Zoom). Interactive lectures were described as synchronous and participatory lessons which allow students to interact with teachers or classmates using video conferencing software such as Zoom, Webex, or Google Meet. Combined interactive and on demand lessons were described as allowing for some self-paced asynchronous learning and also participatory real-time video conferencing. Finally, materials and assignments sent by email were described as correspondence style lessons that utilized textbooks or documents to convey knowledge. This type of course could accommodate students with severe internet data limitations.

Table 4 shows the type of lessons students wished to receive. It is interesting to note that as the desire for on-demand only lessons decreased there was a sharp rise in preference for a combination of interactive and on-demand.

Students were also asked to rate their general level of satisfaction with online learning across all of their classes during S2 and S3. Figure 2 shows the distribution of the total number of responses for S2 and S3. The average level of satisfaction in S2 was reported as 6.88 ($SD = 2.03$), whereas the average level of satisfaction in S3 was reported as 7.11 ($SD = 2.07$).

In order to determine if there was a significant change in the levels of satisfaction between S2 and S3, a Dependent *T*-Test was conducted on responses from students who had replied in both surveys. Therefore, after removing single student responses a total of 85 responses remained. The results from S2 ($M = 7.11$, $SD = 2.01$) and S3 ($M = 7.13$, $SD = 2.03$) did not indicate that any significant change had taken place regarding the students' level of satisfaction with online learning between surveys, $t(84) = 0.14$, $p = .89$.

This data was further analysed using an Independent *T*-test to compare the levels of satisfaction between students who had access to unlimited data plans and those who did not. For S2, there was no significant difference in the levels of satisfaction between the unlimited data group ($M = 7.01$, $SD = 1.95$) and the limited data group ($M = 6.42$, $SD = 2.28$), $t(111) = 1.28$, $p = .20$. However, for S3, comparing the unlimited data group ($M = 7.23$, $SD = 1.98$) and the limited data group ($M = 6.38$, $SD = 1.99$) a significant difference in satisfaction levels was observed, $t(98) = 2.39$, $p = .02$.

Table 4: Student lesson preference

Lesson Preference	S1	S2	S3
On-demand lectures (recorded lectures)	45.0% (n=63)	31.9% (n=36)	30.7% (n=31)
Live lectures (YouTube live)	11.4% (n=16)	14.2% (n=16)	7.9% (n=8)
Interactive lectures (Zoom)	6.4% (n=9)	4.4% (n=5)	4% (n=4)
Combination of interactive and on demand	30.0% (n=42)	42.5% (n=48)	52.5% (n=53)
Assignments/materials by email	7.1% (n=10)	7.1% (n=8)	5% (n=5)
Total responses	N=140	N=113	N=101

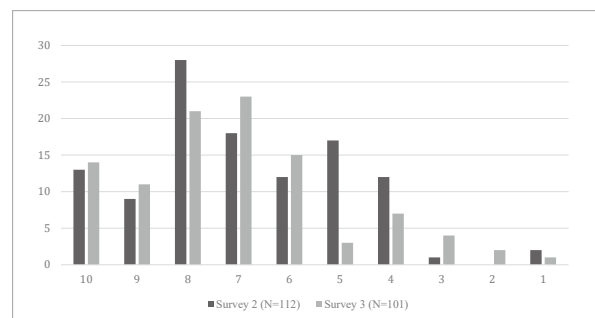


Figure 2 - Online learning satisfaction rating

Discussion

It is interesting to note that over the course of the spring semester, there seemed to be a rise in the number of students using smartphones to access their lessons (S1 = 12.9% / S3 = 18.6%). This may have had to do with a change in the lesson content or the manner of delivery utilized by teachers. It also may point to the fact that students grew more accustomed to using the mobile app version of Google Classroom, the learning management system (LMS) being widely used to delivery online content. Another possibility may be that after the state of emergency was lifted, students spent time away from their homes when studying.

The fact that the percentage of students with unlimited data plans decreased by over 15% between S1 and S3 is a concerning statistic. The reasons for this decline could not be established by analysing survey responses but it may have had to do with the discontinuation of free data plans that were offered by providers at the outset of the pandemic as a gesture of goodwill. While the surveys did not determine the amount of data that students had access on their limited plans, the implication of 29% of the student population having data limitations should not be lost on instructors while designing courses. For example, using video conferencing software such as Zoom to conduct lessons can use anywhere between 810 MB/hr to 2.4 GB/hr depending on the number of participants and video quality (Abbott, 2020). This data usage is approximately equivalent to streaming an HD movie online. Video playback is not much better in terms of data usage for on-demand lessons posted to YouTube at 260MB/hr to 1.65GB/hr depending on the video quality (Ilumba, 2020). Even under the lower estimates of data usage it is easy to image that students would be using 2-3 gigabytes per day in classes that rely heavily on video conferencing. All but the largest smartphone data plans would be used up by mid-month with this amount of usage.

While students seemed generally satisfied with their online lessons (S2 $M = 6.88$, S3 $M = 7.11$), it should not go unnoticed that S3 showed a significant difference in levels of satisfaction between students with unlimited data plans and those without. Unfortunately, it is beyond the scope of this study to rule out any other factors that may have negatively impacted the online learning experiences of students with limited data plans. However, it is clear that students with limited data plans view their online lessons in a less favourable manner. Teachers should make attempts to accommodate students with data limitations when deciding methods for implementing their lessons.

Regarding lesson preference, it is interesting to note that a preference for on-demand only lessons dropped by almost 15% while a preference for a combination of interactive and on-demand lessons increased by 22.5%. In order to better understand their preferences, students were asked to elaborate on their opinions regarding lesson type. As for on-demand only lessons, many students responded that they appreciated the ability to study at their own pace and that these types of lessons increased opportunities for self-study and autonomy. However, they also lamented the fact that on-demand lessons negated social and communicative aspects of learning, such as the ability to ask questions to professors and peers and to receive timely feedback. The timeliness of instructor feedback was also identified by Sheridan and Kelly (2010) as a key indicator of satisfaction when they examined the value students placed on instructor presence in online courses. Interestingly, Sheridan and Kelly also found that students did not place a high value in synchronous communication with their instructors. Based on responses from the present survey, however, it was clear that making friends,

communicating with classmates, and being able to ask questions and receive feedback from professors weighed heavily on students' minds. This difference can most likely be attributed to the unique situation of ERT where all courses are being offered online and students have limited opportunities to meet any classmates or professors face-to-face.

Finding a good balance between synchronous and asynchronous approaches is certainly a challenge when considering online course design and implementation. This is particularly true with language courses where many instructors view real-time and face-to-face communication as essential for learning. However, while some instructors may seek ways to recreate their face-to-face lessons in an online environment, it is important to recognize that “students studying online are in a different learning environment or context than students learning in a classroom, and the design needs to take account of this” (Bates, 2019, chapter 4.2.3). As McCarty (2020) points out, by adopting new technologies without first considering our students' needs, we run the risk of “the medium eclipsing the message.” McCarty goes on to point out that experienced online instructors tend to rely less on synchronous methods of content delivery and focus more on the ‘learning’ aspect of e-learning.

Conclusion

After months of merely surviving remote emergency teaching, our focus as educators should be shifting to thriving in high quality online learning environments. This is no small feat to be sure, but by opening lines of communication with our students, we will gain useful insights that can help guide our decisions when designing and implementing our online lessons. Luckily, software like Google Forms provides an effective platform for collecting feedback from students. Asking open-ended questions using Google Forms makes opening lines of communication with students easy and instructors would be well advised to solicit such feedback as often as possible. While many of us long for a return to face-to-face lessons, the future of classroom learning in Japan will probably incorporate more blended approaches as we return armed with a host of new technological skills.

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