

## Studying on the Internet under the Pandemic: A Qualitative Study of Internet-based Learning Experiences among College Students in South Korea

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### Abstract

*This study aims to explore how college students have adjusted to Internet-based learning (IBL) since the pandemic and how they have subjectively experienced their Internet-based classes including live-streaming and recorded classes. We conducted a qualitative study on 16 college students in South Korea. The analysis of the in-depth interviews revealed that despite early negative experiences regarding adjustment to IBL, the participants seemed to have developed an increased sense of control over their learning and simultaneously reported a greater need for self-discipline and social support in order to stay motivated. Also, instructors' digital competence and creative attempts to facilitate class communication and discussion appeared to have influence on successful IBL. Lastly, the participants' physical learning environments seemed to impact their online learning in terms of their level of alertness and motivation for study. Implications and suggestions were discussed.*

**Keywords:** Internet-based learning; Live-streaming Class; Recorded Class; Pandemic; Physical Learning Environments

### 1. Introduction

Since the COVID-19 pandemic, the world has been faced with numerous challenges and irreversible changes. The contemporary society, which had already undergone considerable changes via the internet, has changed more quickly and intensively in the face of a global crisis. Social distancing under the pandemic has

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rapidly created and expanded the spaces for virtual communication and exchange through the internet. Among those changes, Internet-based learning (IBL) has completely displaced the classroom learning upon COVID-19 school closures and continues as an effective alternative to face-to-face learning until today [1, 2]. This study aims to explore how students have adjusted to IBL since the pandemic and how they have subjectively experienced their Internet-based classes including live-streaming and recorded classes. This study particularly focuses on college students' perceptions on their IBL since the pandemic.

In 2020, students and instructors have faced the sudden school lockdown and abrupt transition to IBL without proper preparation for the change. This transition was quite difficult and heterogeneous to each of the students, and it impacted them in several ways. Some studies have attempted to explore the immediate impact of such rapid transition [3-5]. A significant body of research reported negative outcomes of IBL under the pandemic [6, 7], along with various challenges such as economic and digital inequality or lack of technical readiness for IBL [8, 9] and increased psychological difficulties [10, 11].

On the other hand, some studies on college students' learning experiences since the pandemic suggested several positive prospects: students' being able to study at their own pace, easier communication with instructors via online talks or chats, or saving travel time for study [12, 13]. Also, it was noted that IBL experiences under the COVID-19 offered an opportunity for students to enhance a sense of self-efficacy in their management of time and schedule, as well as the skills for self-regulated learning [14, 15].

However, it should be noted that one of the most prominent changes derived from current IBL under the pandemic is that students now sit alone in their own private spaces, not in the classrooms, and look at the screen instead of engaging in actual face-to-face interactions. In other words, the traditional ways of learning, class communication, and interactions for learning have significantly changed [1, 2]. Also, the private spaces such as home or a quiet room where the students can take their Internet-based classes have emerged as a new integral part of school learning [16, 17], partially or fully displacing the conventional classrooms. The purpose of this study is two-fold. First, this study explores how college students have adjusted to the new way of learning since the pandemic. Second, this study aims to reveal college students' subjective experiences of Internet-based classes including live streaming and recoded classes, particularly focusing on their physical learning environments for IBL.

We conducted a qualitative study with an explorative design on the college students who were taking Internet-based classes since the pandemic. The in-depth interviews on 16 college students in South Korea will help reveal how IBL since the pandemic has changed college students' subjective learning experiences and identify further needs for successful IBL.

## **2. Methods**

### **2.1 Participants**

The participants for this study were undergraduate students enrolled in a national university in South Korea, who had taken and were also taking Internet-based classes since the pandemic. This study was approved by the institutional review board (#2021-0718). This research was conducted between October and December in 2021, during which period Internet-based classes were held, often mixed with face-to-face classes, in accordance with the social distancing regulations. The participants were asked to share their previous and current IBL experiences since the pandemic. A pilot interview was conducted on eight college students (5 male, 3 female). The main data for in-depth interviews was gathered from 16 college students (9 male, 7 female); two sophomores, ten juniors, and four seniors participated in the in-depth interviews. The

majors of the participants included education, psychology, English literature, philosophy, physics, and environmental engineering.

## **2.2 In-depth interviews**

### **2.2.1 Participants interview guide development**

We developed the initial set of in-depth interview questions based on: i) literature review of previous studies on the effects of IBL under the pandemic on college students [4-6] and psychological wellbeing of students [10, 11], and ii) results from the pilot interview with eight undergraduate students who shared their IBL experiences since the pandemic. After repeated review, the final set of interview questions and manual was determined. The in-depth interviews consisted of an introduction, warm-up questions, the main interview content, and a closing. The introduction contained the purpose of the study, information regarding participants' rights about confidentiality, and the planned method of analysis of the information. The introduction also addressed the fact that the interviews should be recorded and that the transcribed versions of the interviews should be given to them for review. The warm-up questions included students' school year and major. The interview focused on two broad aspects: i) how the students have adjusted to IBL under the pandemic, from school lockdown to current days, and ii) how the students subjectively experience their internet-based classes including live-streaming and recorded classes. The interview was semi-structured; the probes were to focus on the participants' initial reaction and adjustment to IBL and their perceptions of the live-streaming or recorded classes while focusing on the impact of physical learning environments for such classes.

### **2.2.2 Interview procedure**

Before the interview process began, the interview team were trained in the field of interviewing. Several educational meetings and training sessions were held. The team were provided with manuals that explained in detail, the different aspects of interviews such as tone, bias, follow-up questions, or structure. The team reviewed the consolidated criteria for reporting qualitative research [18] to follow the standardized procedures of qualitative research. Such a structure was used to allow for in-depth and open interviews. The interviews were held face-to-face in a secure place that was the most convenient for the individual participant. The participants were informed about the purpose for the interview, and were given the opportunity to clarify their doubts and questions. The participants were also offered a consent form which they signed, thus, giving the interviewers the consent to record the interview and use the information obtained for the purpose of research. The interviews lasted from 40 minutes to an hour. At the end, the participants were compensated with a gift in return for spending their time and effort to help out the research.

## **2.3 Analysis**

With regard to the in-depth interviews, the study focused on gathering common themes and implications from the interview content. The exact procedures were adopted from Matthew & Ross [19] in four phases: segmentizing primary themes; categorizing them; relinking the aspects of the themes; and presenting as final data. In detail, the research team went through all the transcripts, following the common trends. While meaningful and recurring themes were recorded, unique and rarer experiences were discarded. Such a method of analysis helped find out the general trend among the participating students, which could help giving an effective generalization of the majority of students' experiences during the Internet-based classes held in the context of the pandemic. At first, the coding was conducted independently. Later, the team discussed each coding and compiled them into a final, saturated list of findings. After repeated discussions

for relinking the coded themes, a compiled table with 18 concepts, 8 sub-categories and 4 categories was created.

### 3. Results

The analysis resulted in 4 categories, 8 sub-categories, and 18 concepts. Table 1 presents the results of analysis. The categories included challenges in transition, ups vs. downs of IBL, live streaming vs. recorded classes, and home vs. public spaces for IBL.

#### 3.1 Challenges in transition

##### 3.1.1 Early challenges during transition

**Difficulties in adjusting to IBL.** The participants reported that in the beginning of the pandemic and transition to IBL, they have faced significant difficulties including network issues and instructors' ineptness in online teaching. Participants stated that most instructors appeared to be lack in the skills required for teaching online. Participants also complained about the instructors' lack of efforts for class, as well as the lack of the expertise to edit the videos or difficulties in utilizing online learning platforms.

"It was a live streaming class. Sometimes network issues happened; I couldn't hear what professors

Categories	Sub-categories	Concepts
Challenges in transition	Early challenges during transition	i) Difficulties in adjusting to IBL ii) Poor management of school administration
	Aggravating challenges	i) Feelings of alienation and frustration ii) Unsatisfied with the quality of learning
Ups vs. downs of IBL	Ups of IBL	i) An opportunity to develop one's study style while managing time ii) Perks of living and studying at home iii) An opportunity for more active discussion and engagement
	Downs of IBL	i) Fewer scope of class communication ii) Low motivation and focus iii) Lack of social contacts
Live-streaming vs. recorded classes	Learning experiences of live-streaming classes	i) Harder to concentrate ii) Hard to find places to attend live-streaming classes
	Learning experiences of recorded classes	i) A sense of control ii) Greater need for self-discipline
Home vs. public spaces for IBL	Home or dormitory	i) Lethargic with entanglement of workspace and personal space ii) Studying while family or roommates being around
	Public places like library and café	i) Seeking social pressure and support for study ii) Limited participation in class activity

**Table 1. Findings of in-depth interviews**

were trying to say." (Participant15)

"There were only a few professors, who adapted, and most of them couldn't be technically adjusted." (Participant 7)

"Professors didn't know how to do it, handle it, and how to use the online platforms effectively." (Participant 16)

**Poor management of school administration.** One of the things that made the transition harder for the participants was the indecisiveness of the university administration. Rather than deciding to make classes

online for the whole semester, the university would make it online for one month by sending students an email about offline classes being postponed month by month.

“What I was angry about my school was while the other university in Korea said that they will do Internet-based classes 100% at the opening of the semester, or before semester but my school was kind of mumbling like, I think we could open our classes in April. And then when the April comes, they say, we will open our class in May, like they kept postponing without clarifying their opinion.” (Participant 1)

“I wished there is a clearer explanation or what is going on in Internet-based classes in general in the university scale.” (Participant 13)

### 3.1.2 Aggravating challenges

**Feelings of alienation and frustration.** As the social contact has significantly decreased since the pandemic, the participants reported that they felt isolated or lethargic. Such emotional difficulties included a feeling of loneliness, frustration, and exhaustion, due to prolonged isolation from continued IBL.

“I was excited at first because I didn’t have to go to school. After a few days I realized it isn’t good, because it’s difficult to take Internet-based classes. I felt lonely, felt I’m in a cage. House felt like a cage. I couldn’t go anywhere.” (Participant 9)

“I felt like I was in some kind of lonely island.” (Participant 10)

**Unsatisfied with the quality of learning.** Many students in Korea were exposed to the Internet-based private education in adolescence. The participants seemed to be familiar with high-quality online lectures. Online private education is likely to provide well-organized online lectures utilizing professional cameras with high definition, along with skilled editing and subtitles. On the other hand, many universities in Korea were not properly prepared for IBL. According to the participants, some instructors, who were only familiar with face-to-face classes, appeared to be confused during transition. The participants stated that the quality of Internet-based classes since the pandemic was lower than that of the previous face-to-face classes; the participants complained about their IBL for its poor quality.

“I did feel I wasted my tuition whenever I see the professor not being able to control the microphone or record properly.” (Participant 1)

“Since I paid same tuition, I think I should get a good quality of lectures. But it is quite different in terms of quality before and after the pandemic.” (Participant 16)

Many participants also complained about unnecessary assignments. In addition, the participants shared that although they obtained the same grades or even better grades, their actual achievement might be lower. Many participants noticed that some professors recycled their videos without changing anything, which made them even more unsatisfied with IBL.

“I think they want students to study by doing assignments. But assignments don’t have that... I learnt nothing but worked all day.” (Participant 9)

“I got better grades online but that wasn’t my grade. That is because school eased the grading system. Before it was 20% of the class that could get A. Then it became 50%.” (Participant 15)

“Professors reuse the same video again in 2020 and 2021. The students who had to listen to the same professor’s same lecture again because of their grade problem were like saying that.” (Participant 1)

### 3.2 Ups vs. downs of IBL

Mixed and complicated responses were gathered with respect to the participants’ experiences of IBL, divided generally into the ups and downs of IBL.

### 3.2.1 Ups of online class

**An opportunity to develop one's study style while managing time.** Some participants stated that over time they were eventually able to manage to adapt and cruise through Internet-based classes. They seemed to find their own study styles or routines that worked for them.

"I didn't know when the COVID-19 pandemic would end, so I separated my rest and study by filling out my own timetable rather than being devastated and lazy at home." (Participant 8).

"Internet-based classes have no restriction on place and time... if it is a recorded video, you can repeat whatever part you want and... for students who are afraid to give presentations or do discussions and actual circumstances they would have better time having Internet-based classes." (Participant 14)

"Now I am able to study alone, not relying on professor or my friends or anything. I know how to study alone deeply." (Participant 9)

**Perks of living and studying at home.** Internet-based classes were convenient for many participants since they were able to save time on transportation, and money on living expenses. Also, living at home and access to home-cooked meals was seen as an advantage now that the burden of chores such as laundry and cooking has decreased.

"There is no commute time and I study in a more familiar environment, which means my home, and it was more efficient to work in Internet-based classes." (Participant 13)

"It takes about 1 and half hours for just going to school and come back to school so it takes 3 hours a day. It was the biggest difference (in online class)." (Participant 2)

"One good thing about studying at home that helped me study better was that my mother cooked and gave the food in time -breakfast, lunch, and dinner." (Participant 15)

**An opportunity for more active discussion and engagement.** Some students reported positive experiences of certain Internet-based classes, where the instructors worked hard to have the students participate in group discussion. It seemed that the more the instructor tried to interact with the students, the better communication and higher participation of students.

"Most of the class participation got decreased. But I have one class where all students participate in the class. It was the AI course. I think the instructor was actively chatting, and his active chatting made the students participate in the class." (Participant 9)

As another example, the concept of flipped learning was often brought up in some interviews where students were supposed to review the learning materials first, and then ask questions to professors, accordingly actively engaging in class discussion.

"The instructor gave us some documents, textbooks, but the point is that we have to study first and then ask questions to teachers. So, it's flipped... I wasn't sure, but it's going to work, only in Zoom class... It was the best lecture I ever had since the pandemic." (Participant 10)

### 3.2.2 Downs of online class

**Fewer scope of class communication.** The participants found it difficult to interact with each other and with the instructors during Internet-based classes. They reported that it was hard to get feedback online; class discussions and group projects had sparse participation, lowering overall levels of engagement and opportunity to bond with the class.

"We can't ask questions like before. We can't communicate with the professor either. I think that's the biggest problem." (Participant 16)

"In online class we have no chance to get in touch with other classmates." (Participant 2)

“I think there was not much communication in class. Most classes were recorded ones, so it was a little hassle to email or text the professors when I had a question. Sometimes I wanted ask my classmates about something, and then I had to bother to contact them.” (Participant 5)

**Low motivation and focus.** Many participants felt that they lost their motivation to study and stay focused during IBL. They pointed out environmental factors such as the absence of ‘monitors’ (e.g., instructors or peers) for these difficulties. Also, the presence of peers and instructors in face-to-face learning seemed to offer not only a sense of being monitored but also an opportunity for social learning. Internet-based classes appeared to remove such influences.

“In face-to-face class, professor knows what I am doing, like if I touch my phone, they know. If I sleep, they know. But in Internet-based classes, they don’t know anything about it. Just by that term, that part, it changes everything. We can become as lazy as we want. We can just sleep as we want.” (Participant 1)

“I guess, because there is no comparison with other students, so my motivation was low. You know, when I’m looking at the other students studying hard, I think, oh, I should do the same. But when I’m in my house studying alone, there can be no motivation, I guess. It was hard to start working.” (Participant 13)”

**Lack of social contacts.** Fewer scope of class communication was aggravated with the lack of social contact and of the extra-curricular with social networks (e.g., clubs, junior or senior students).

“When we go to face-to-face classes, we can enjoy campus life with our friends or seniors and juniors, and there are many chances to do extracurricular activities other than classes, but now I don’t have such opportunities anymore.” (Participant5)

### 3.3 Live-streaming vs. recorded classes

The learning experiences of the participants regarding Internet-based classes were divided into two main types, live-streaming and recorded classes. Although many participants preferred recorded classes over live-streaming, this preference was found only if they felt that they had self-control.

#### 3.3.1 Learning experiences of live-streaming classes

**Harder to concentrate.** The participants reported that they had hard time concentrating during their live-streaming classes. Particularly, turning off camera and muting audio facilitated a lack of accountability and a mental absence from the Internet-based classes, adding onto barriers in communication between participants and instructors.

“We didn’t have to turn on our cameras and so professor and other participants can’t see my face and it makes me like easier to hide. So, I thought I didn’t have to answer, I didn’t have to ask questions” (Participant 2).

“My professors usually had live-streaming classes, but everybody turned off their camera and microphone off. Right! That means that they’re not concentrating into the class. And I was like that too.” (Participant10)

Most participants stated that live-streaming classes can be worse without the instructors’ efforts to communicate with students during and between classes. If the instructors were not competent for the Internet-based class, or if the size of class was big, live-streaming classes were ineffective.

“I think interactions between students and professors are really important. The classes where the professor has willingness to communicate with students brought up students’ interest and participation.

I think that's the power of live-streaming. Especially, a small size of class is better. In a large class, everybody turned off the video and there had been no communication." (Participant 4)

**Hard to find places to attend live-streaming classes.** Participants reported their difficulties finding an appropriate place for live-streaming classes. At home, they had to make sure that they were not disturbed by family members. If they were not at home, they had to find a quiet place where they can use a laptop. However, it was difficult to find a secure place equipped for the laptop charging. They had to wander around looking for a place. Some participants stated that they often attended a class in the hallway. Such difficulties appeared to get worse when face-to-face and Internet-based classes were mixed in a day, one after the other.

"When I took class at home my parents watched the TV all the time, so it was very annoying." (Participant 14)

"I found there is very little place to study online in our college, because I needed a laptop and charging. But there were not very many laptop places in college or library... Yesterday I had a live-streaming class; I planned to study in the study room of the college building, but all were occupied. I couldn't find a vacant classroom, so I had the class in the hallway walking and holding my laptop. It's hard." (Participant 9)

"Since there's no place to go when there's a live-streaming after a face-to-face class, and there is almost no quiet place in the school, so I took the lecture in a noisy room." (Participant 4)

### 3.3.2 Learning experiences of recorded classes

**A sense of control.** The main reason behind the participants' preference for recorded classes was a sense of control that they were in charge of managing and following through with their schedules. They were able to repeat and rewind the material whenever needed, which helped them understand what they missed or could not understand. Also, it was stated that they were not bound by a particular time slot and could refer to the lectures whenever convenient. Overall, recorded classes gave them a sense of control over their time and space.

"You can take a class when you want and if there is something you don't understand, you don't have to ask the professor, just rewind it to understand" (Participant 11).

"Since there are no temporal and spatial restrictions, you can listen when you want and use other times more productively. (Participant 7)"

**Greater need for self-discipline.** The positive feelings and sense of control regarding recorded classes seemed to be applicable only if the participants were self-disciplined enough. It appeared that many participants were faced with significant obstacles in the recorded class. They seemed to procrastinate until the last minute or to leave it playing in the background for attendance points. In addition, they were easily distracted by other tasks or stimuli, because recorded lectures depended mostly upon the subjective will of a participant.

"I didn't even care about the recorded class. I just put off everything, and when it came to the midterm exam I just played the video three or four times." (Participant 10)

"I'm easily distracted when watching a video because it's done with a laptop. Using the phone or doing something else, I have developed such a bad habit" (Participant 12).

### 3.4 Home vs. public spaces for IBL

Having to take classes outside of the actual classroom, the physical surroundings of participants were crucial. The participants seemed to have their own preferences depending on specific needs. Some participants who liked to study with friends and to be surrounded by people preferred to study in cafés or



libraries; other participants who liked to study alone, preferred their own room. However, many participants claimed that they were more motivated when they were accompanied by other peers who were studying together.

### 3.4.1 Home or dormitory

**Lethargic with entanglement of workspace and personal space.** For a face-to-face class, students need some time to get ready (e.g., waking up in time, taking a shower, using transportation, going to class, or sitting in the classroom) for their learning to take place. However, being at home and having the same space both for living and for studying, participants had their bed next to their desk and did not have to prepare much to attend class.

“Somehow I become laze during class. If I have a class at 10:00, I usually would wake up at 9:50, do my face washing, clean my teeth, and just sit down to click.” (Participant 1)

“I can’t fully focus on class. I think that’s because when I am at home I feel so relaxed, so I turn on class but my mind is on the bed. I just want to go to bed.” (Participant 16)

“When I was taking the class, I can see the bed right next to my desk. It’s like I just want to go back to sleep all the time. It’s so hard to keep awake and I feel so tired. Then, I just jump to my bed right after the class.” (Participant 3)

It seemed that such entanglement of study space and personal space made it difficult for the participants to concentrate and stay focused. Such difficulties had them feeling tired and lethargic during IBL.

**Studying while family or roommates being around.** For participants living with their families or roommates, IBL experiences were quite different. If their family or roommates cooperated, learning could be smooth. However, it was difficult for them to expect their family or roommates to cooperate throughout the class.

“They have to clean the house, and vacuuming sound was noisy. They want to watch TV but I had a class. So they disturbed me and I disturbed them.” (Participant 9)

“They helped me. Uh, like it was a live-streaming class, so I told my family that I am taking a class, it is live, I might have to turn on the microphone, so I hope you guys do not come into my room. So, they didn’t open the door during the entire class. And when I have a class around the lunch time my family prepared food for me and served it to my room.” (Participant 16)

“If you have a live-streaming class in the dormitory, your roommate’s head will be seen on the screen, or if you take a class using a microphone on one side, other voice will always be included. Therefore, I don’t even think about studying in the dormitory.” (Participant 3)

### 3.4.2 Public places like library and café

**Seeking social pressure and support for study.** Some participants stated that studying alone at home was demotivating. The learning environments like a library or a café, where other students were studying too, served as positive peer pressure and pushed the participants to study for longer hours and complete their assignments. It appeared that some participants developed a preference of studying in public spaces seeking social support and pressure for their study.

“I go to café with my laptop, I feel like that my friends were like everywhere near me, and that comforts me comparing to like doing a lecture alone” (Participant 10).

“In my one-room I lived alone, so no one’s there to control me. I just always played with my phone and listened to music. If I didn’t go to the library or café, I couldn’t study at al. I need a place where other people are studying together.” (Participant 15)

**Limited participation in class activity.** Taking a class in public places can offer the environment similar to the classroom. However, their active engagement in class discussion was limited because there were others in the public places. Some participants complained about the noises from the public spaces when they had a presentation for class.

“If I turn on the MIC to make a presentation, everyone in class can hear all the noise from the café, so it's hard to have a presentation.” (Participant 6)

#### **4. Discussion**

IBL has been imposed as an inevitable option since the Covid-19 pandemic. This study explored how college students in Korea have adjusted to this transition and how they have subjectively experienced their IBL. First, the findings from the analysis of the in-depth interviews showed that the initial experiences on transition to IBL were mainly characterized by the participants' negative experiences. The sudden decision of the university administration to halt face-to-face classes and to move everything online seemed to shock the participants in terms of their ways of learning and interacting with instructors, university facilities, and peers. It seemed that lack of social contact resulted in severe feelings of alienation and depression among the participants, as expected from the findings from previous research [10, 11]. Many participants stated that they were unsatisfied with the quality of IBL during the early period of the pandemic.

These findings indicate that universities should have provided clear guidelines for change and informed students of the guidelines through text messages and e-mails to prevent confusion. In addition, it should be noted that instructors' digital competence for class seemed to be vital. Educational support and re-education should be provided so that instructors could adjust to new technologies and online platforms for successful class management. It was also found that universities should put a lot of effort into students' psychological difficulties caused by the lack of social contact since the pandemic.

Despite several educational challenges, there were some positive aspects of their IBL experiences, as expected from the previous studies [13-15] – i) the participants were given a chance to develop their own study style and time managing skills, ii) staying at home allowed for them to improve bond with family, reducing commute time and living costs, and iii) instructors' endeavour to facilitate online participation and discussion could significantly improve the quality of IBL. For example, flipped learning can be an effective intervention to maximize IBL [20]. Also, the participants showed a preference for recorded classes over live-streaming. They seemed to have a sense of control over their daily schedule and were able to repeat lectures to understand tough class concepts. However, without appropriate self-control and a conducive learning environment, the participants were unable to retain information from classes. Regarding the live-streaming class, the participants shared that it was difficult to stay focused, especially when they were allowed to turn off the camera. Taking off the camera during a class seemed to have them become dissociated from the class. Another serious challenge for the live-streaming class was that the participants were often unable to find any suitable space within school when they had a combined schedule of live-streaming and face-to-face classes in a day.

More importantly, the participants shared how their individual learning environments for IBL impacted their motivation for learning and performance. In the case of home or dormitory, they felt that the entanglement of workspace and personal space at home made it difficult for them to focus on IBL. They were easily distracted by their beds nearby and family members or roommates. Also, the interview with the participants revealed that the behavioural routine for 'taking class' appeared to have a significant change. Before the pandemic, taking class involved certain routine, such as getting up, being dressed up, taking transportation to school or walking to school, entering the classroom, and sitting. For example, the

participant 2 mentioned that previously “it takes about one and half hours for just going to school.” However, now they would wake up right before the online class. The participant 1 stated “If I have a class at 10:00, I usually would wake up at 9:50, do my face washing, clean my teeth, and just sit down.” It seemed that the general routine for taking class was likely to function as warm-up behaviours to reach the level of arousal or motivation required for effective learning. Some participants’ preference for public places for IBL can be seen as part of their efforts to maintain the level of alertness and motivation required for their studies. Therefore, various educational measures, such as utilizing social pressure or support and implementing a warm-up time or preparatory exercises for IBL, need to be developed for successful IBL.

## 5. Conclusion

We performed in-depth interviews of 16 college students in South Korea and found 4 categories, 8 sub-categories, and 18 concepts from the in-depth interview. According to the analysis, despite early difficulties during transition to IBL, the participants seemed to adjust to Internet-based classes including live-streaming and recorded classes. It appeared that they have developed an increased sense of control over their learning but simultaneously reported a greater need for self-discipline and social support to stay motivated for IBL. The findings indicated that instructors’ digital competence and creative attempts to facilitate class communication and discussion might be vital for successful IBL. Also, it should be pointed out that allowing students to turn off camera during live-streaming can have detrimental effects on IBL. Most importantly, the participants shared that the behavioural routine for ‘taking class’ has a significant change: they woke up right before class without any preparatory routine for IBL. These findings indicated that one of the keys for successful IBL depends on how students maintain their alertness or appropriate level of motivation for learning. In order to generalize the findings from this study, it is necessary to replicate the design of this study. In addition, this study was conducted at a local national university and needs to be supplemented through research on private universities.

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