The Impact of COVID-19 on Higher Education in South Korea

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Abstract

The COVID-19 pandemic forced universities worldwide to switch from face-to-face teaching to online remote teaching. The majority of students are dissatisfied as their college lives are completely ruined, and they are not able to maintain their social networks. South Korean higher education has long been troubled by decreasing tuition revenues, an aging problem, the low-level internationalization of university education, and administrative redundancies, and now the pandemic has greatly aggravated these structural defects. Furthermore, course content creation posed a major challenge to professors, while the lack of student motivation and commitment led to a rapid decline in the quality of education and evaluation. Accordingly, students requested a refund of their tuition fees, or at least compensation, and called for the improvement of online courses.

Keywords: course content, internationalization, online education, education quality, evaluation

Introduction

South Korea has long been admired for its rapid economic development, and higher education is widely regarded by South Korean families as a path to social advancement. However, in recent times the country has faced challenges characteristic of developed countries, such as an aging problem, increasing youth unemployment, and overcapacities in higher education.

In South Korea, successive governments proactively intervened in higher education to achieve a concentration of knowledge in renowned universities with outstanding research performance. The shift towards these universities is promoted by the governments through subsidies, while universities in rural areas are compelled to shut down, reduce their departments, or merge with other institutions of higher education.

The problems generated by the worldwide COVID-19 pandemic have not only accelerated the transition process but also illuminated other problems and confirmed that the internationalization of universities, a policy pursued by inviting renowned foreign professors and attracting international students, is still fragile. Even countries endowed with well-established hubs of higher education have been adversely affected by the sudden drop in the number of foreign students. South Korean universities are similarly troubled by the diminishing number of foreign students, whose presence was once regarded as a potential solution to the domestic shortage of students, a symptom of an aging society. Thus, the pandemic brought various other problems into sharp relief.

Recent research publications focused on these themes have mostly examined the pandemic's psychological impact on students. Since there is a limited number of research works about COVID-19's impact on emerging higher education in non-Western countries, this paper seeks to fill this gap on the basis of the author's personal experiences as well as the information gained from faculty staff members from other South Korean universities.

Methodology

This study is based on the findings of an empirical analysis, including the author's personal observations that have been made during the first three semesters affected by the COVID-19 pandemic. The paper is divided into four sections. The first section briefly enumerates the challenges encountered by South Korean higher education before the onset of the pandemic; the second section analyzes the terminology of online learning, as it seems to have been misused by the university administrations of universities and the government alike; the third section outlines the recent impact of COVID-19 on higher education and the regulations the South Korean government has implemented in response to the pandemic; the last section contains the author's recommendations to enhance the effectiveness of remote online education. Since the pandemic has not been overcome yet, further studies may also facilitate the creation of a favorable work and study environment.

The Crisis of South Korean Higher Education before COVID-19

The development of South Korean higher education has been considerably influenced by the policies of successive governments, which often lacked continuity. The various administrations have often attempted to respond to societal and environmental changes through quick fixes in education rather than taking a proactive approach. Such quick fixes were prone to create redundancies and inefficiencies within the educational bureaucracy, and the projects launched by the previous administration were frequently canceled or significantly modified (Han et al., 2018).

The OECD made various suggestions about how to transform and sustain higher education in South Korea for the future (Baek & Jones, 2005). Although the recent South Korean governments did take these proposals into consideration while designing new regulations or modifying the earlier regulations, a number of challenges continue to persist. These problems are now further

aggravated by the impact of the novel coronavirus known as COVID-19. At universities, new and new departments were created, as the old departments showed little readiness for reorganization. Shin (2015) emphasized that Korean postsecondary educational institutions lacked a clear-cut mission differentiation and orientation. These problems generated the perception that they could not operate efficiently. In a well-structured education system, junior (vocational) colleges train students to be able to find employment, whereas universities should rather facilitate their progress toward graduate studies after the completion of their undergraduate studies. In South Korea, the distinction between these two tracks has become blurred.

Furthermore, faculty members must excel in several fields. In general, there is little separation between research and teaching staff at universities. Each college or department needs to decide whether it should concentrate on improving the quality of teaching or on enhancing the faculty's research performance. In practice, however, the performance of full-time lecturers is evaluated on the basis of both their educational and research work. Moreover, they need to present their voluntary service for which they can obtain the necessary points through participation in various meetings and activities related to promoting their workplace. Their workload – especially for junior and foreign faculty members – has undergone a further increase due to the demand for pre-recorded and real-time online lectures that had to be prepared during the COVID-19 pandemic.

South Korean higher education is also characterized by the increasing financial pressure on universities. Their major financial source used to be the tuition fees, which can no longer be significantly increased due to the tuition freeze imposed in 2011. While the universities increasingly rely on the government's financial support, tuition revenues per student have decreased, and the number of students has also undergone a rapid decline due to the accelerating aging of the Korean population. The government's financial support is focused on the major universities that are capable of increasing their research output. At the same time, a system of regular inspections was introduced by the Ministry of Education to monitor the activities of the universities, identify redundancies, and curb the rising costs caused by these redundancies.

The internationalization of South Korean higher education coincided with the problem posed by the increasing aging of the population. The declining number of domestic students and the consequential decrease in tuition revenues forced the universities to aggressively recruit international students. This has created another problem because the recruitment of foreign students was achieved at the cost of reducing the quality of education. Not only the author but also other faculty members observed that the difficulties of teaching foreign students were at least partially attributable to their weaker-than-expected Korean language skills. The widening gap between the diminishing tuition revenues and the unchanged or rising expenditures was expected to be filled by the recruitment of international students – a conception actively promoted by successive government administrations. One of the major goals was to attract up to 200,000 international students by 2020. This ambitious goal was not achieved, but the number of foreign students did steadily increase until 2019. Since 2020, however, this source of income has been severely depleted due to the COVID-19 pandemic. The government found it imperative to intervene and subsidize the financially stricken higher education system. It also implemented regulations aimed at ensuring the continued influx of international student influx and mitigating the impact of COVID-19 on the domestic population.

Confusion about Online Learning

The South Korean government announced the use of modern online classes and online lectures as buzzwords, presenting them as a path to the future of education services under such titles as "Online learning goes mainstream as new normal" (Bahk, 2020). The online classes were originally intended to be phased out during the second semester of the academic year 2021, but due to the rapid increase of infection numbers in July 2021, the government imposed the highest level of social distancing in Greater Seoul (including Incheon and Gyeonggi province). This

area has the highest concentration of institutes of higher education (109 from a total of 339) and students (997,165 from a total of 2,633,787) (KOSIS 2020a, 2020b). Therefore, it is hard to believe that universities would be able to switch back to face-to-face classes as planned. Regarding the term 'online class', the question arises whether it would really comprise anything new. Remote distance education was first introduced in the United States in 1944 for the purpose of educating millions of World War II veterans. The administration's intention was to set standards for the correspondence schools that needed to introduce courses related to the repair of televisions and radios. In the first years of the 21st century, the repair of communication networks and computers became subjects of education and the assessments were made through the Training-Performance-Compliance system. From the beginning of the 21st century, job security changed due to the rapid development of technology. Consequently, governments worldwide introduced regulations to promote lifelong education for people who needed to find new employment and meet new and changing work requirements. However, online learning may not be described just as correspondence learning, as it includes various methods of teaching and evaluation. Instead, it may be regarded as a way of knowledge acquirement where "the bulk of instructions is offered via computer and the internet." It seems to be misleading to simply refer to the term "online learning" without further classification and specification of its content in the context of education provision. Unfortunately, the South Korean Ministry of Education provided a clear definition of the concept of the remote online class only for secondary education, while there was no clear content description for such classes in the sphere of higher education. The sole formulation created was a rule that stipulated the length of content required for one credit. The lacking definition of content created a situation where lecturers could also use videos from video-sharing platforms, such as Dailymotion and YouTube. The Online Teacher Survey conducted by the Ministry of Education on April 27-29, 2021, discovered that only 58.4% of the videos could be described as teacher-developed content, while external content (e.g., YouTube content) accounted for 43.3%. Consequently, several problems became apparent, such as the issue of copyright violations and the misuse of the time devoted to content creation. No teacher received additional training on how to prepare recorded or online course content. It is obvious that no teacher could deliver quality content either in a pre-recorded form or in real-time without investing a substantial amount of time. Teachers tried to offset this loss of time by uploading videos to various video-sharing platforms. Not only does high school content creation needs specific regulations. In university education, it is similarly imperative to set clear guidelines for content creation. It remains unclear whether and to what extent professors and lecturers may self-educate themselves and utilize the applications for e-learning: interactive learning, virtual classrooms, mobile learning, and learning management systems. There are no clear regulations on the minimum required share of self-prepared content and on the composition of a portfolio of contents, nor is there any clear regulation on the copyright owner of the content created by a professor or lecturer. This may easily lead to the misappropriation of the contents uploaded to the universities' Massive Open Online Course (MOOC) systems. Therefore, it would be preferable to upload the content to video-sharing platforms and relink them into the MOOC systems. Furthermore, university professors and lecturers are usually hardly aware of either their rights to share external content as learning materials or of their own copyright when they create content. Unfortunately, South Korean universities tend to play down the significance of such issues and rights.

Concerning the question of evaluations – where student attendance is a basic component of grading – it is necessary to mention that there are further problems with authentication and the misuse of privacy. Nevertheless, it may be observed that university administrations keep passively waiting for the government to make a decision, only to take sudden and improvised measures when the government finally makes an announcement.

The Impact of COVID-19 on the Internationalization of Higher Education

The COVID-19 pandemic has made an immense impact worldwide. While authors usually attempt to measure or analyze its psychological effect on students, to the best knowledge of the author, no overall system analysis has been performed so far. Pandemic-related articles are published rapidly, which demonstrates the demand for assessing experience and acquired knowledge as soon as possible.

South Korean authors also turned their attention toward analyzing changes in popular trust in the central government decisions (Kye & Hwang, 2020); on the impact of quadruple-learning of the Korean government through the increasing significance of the Korea Center for Disease Control and Prevention since 2003 (Lee et al., 2020); and on the detailed description of teaching methods using Zoom application and PowerPoint presentations. The latter research discovered that due to the pandemic, knowledge assessment had to be conducted in the form of reports instead of the conventional ways of evaluation (Lee, 2020a). Still, there has been no analysis devoted to the efforts aimed at maintaining the internationalization of South Korean higher education; and the frequently changing university syllabi during the pandemic.

Regulations to Maintain Internationalization

In many of the international higher education hubs (such as Singapore, Australia, and the United States), the decrease in the number of foreign students has been so significant that temporary faculty and administration staff need to be laid off. A report titled "Coronavirus and international students," prepared by Hurley (2020), observed that the loss in enrolment accounted for 12.3% in Australia, and if the travel ban continued in 2021, by July 2021, the loss would even reach 50%. In 2021, new student visa applications dropped by 99% compared to the pre-COVID-19 figures (ABS, 2021). Compared to 2020, a fall of 17% in international enrolments was measured, and 31%fewer international students started the new semester in March 2021 (Stacey, 2021). The United States experienced a similar decline in student enrolment: a drop of 43% in first-time enrolments and a decrease of 16% in overall enrolment (Israel & Batalova, 2021; Mackie, 2020). Under such conditions, universities were forced to dismiss not only their temporary workforce but also some members of their permanent staff.

While the most renowned international higher education hubs have gravely suffered from the sudden decrease in the number of international students, South Korea, relying as it did on students from the East and Southeast Asian region, proved able to maintain a relatively high level of international student influx with a total number of 153,695 in 2020. Compared to the previous year, this indicated a decrease of about 4% in total. Table 1 shows that the number of undergraduate students underwent the largest decline between 2019 and 2020 (KESS, 2021).

Unlike many other developed countries, South Korea did not completely deny entry to foreign visitors but merely regulated arrivals. Still, at times the government and the Seoul Metropolitan administration attempted to impose regulations that were widely perceived as discriminatory against foreign citizens, such as an aborted attempt to order all foreign residents to undergo COVID-19 tests.

Fortunately, both the central government and the local authorities introduced regulations to mitigate the impact of xenophobia. At present, it is nearly impossible to enter South Korea, but there are groups of people who can still freely move. One such group of foreigners is the community of international students. The report titled "All about Korea's Response to COVID-19," published by the Ministry of Foreign Affairs in October 2020, includes a section on "the protection for international students in Korea" (MOFA, 2020). This is perceived as a very positive approach in a country that had long treated foreigners in a discriminatory way (Lee et al., 2021).

Table 1
Number of Enrolled Foreign Students in South Korea in Comparison to the Previous Year

Year	Total	Change	General University	Change	Graduate	Change
2010	83,842		59,953		16,291	
2015	91,332	8.93%	62,586	4.39%	24,057	47.67%
2016	104,262	14.16%	72,748	16.24%	25,915	7.72%
2017	123,858	18.79%	88,349	21.45%	27,874	7.56%
2018	142,205	14.81%	99,573	12.70%	31,484	12.95%
2019	160,165	12.63%	111,587	12.07%	35,506	12.77%
2020	153,695	-4.04%	100,797	-9.67%	39,094	10.11%

Note. The data for South Korea "[Number of enrolled foreign students at higher education institutions]" by KESS, 2021, https://kess.kedi.re.kr/mobile/stats/school?menuCd=0102&cd=5075&survSeq=2020&itemCode=01

The South Korean government set up an inter-ministerial team led by the Ministry of Education to create clear guidelines and smoothen entry procedures for foreign students. Local governments also assist universities in providing transportation for foreign students from the airport to their temporary accommodation if they do not have a previously organized place of residence, where they are required to spend the 14-day quarantine period before being able to move freely. The Ministry of Education prepared an emergency fund of US$ 3.6 million to provide support to international students and granted universities the use of government subsidies to mitigate the impact of COVID-19. The Korean government made efforts to co-operate with the analogous ministries of foreign governments. For support of students, universities were encouraged to conduct courses online or record and stream courses online, even if they were originally scheduled as face-to-face lectures. The government requires students to stay inside their rooms for 14 days after their arrival (MOFA, 2020). During this time, their health status is carefully monitored. They are obliged to take a PCR test not older than 72 hours prior to departure and repeat it on the twelfth and thirteenth day of their self-quarantine. Since July 1, some travelers who received full vaccination overseas have been exempted from the mandatory quarantine, while those arriving from high-risk countries are not allowed to skip it (Ahn, 2021).

Course Content-Related Regulations

At the time of the first outbreak of the virus in February 2020, South Korean universities were unprepared for the crisis. Their responses largely followed the recommendations made by the government and the Korea Disease Control and Prevention Agency (KDCA). It seemed to be unnecessary to implement additional guidelines that would enforce the compliance of students and professors to help flatten the curve of infection.

In this section, the author analyzes the guidelines and regulations of a few selected universities: Korea University, Dongduk Women's University, and Kwangwoon University. The South Korean universities attempted to become proactive as the Ministry of Education failed to provide detailed and specific guidelines on online education. Consequently, regulations greatly varied from university to university. The only common element that could be observed is the implementation of real-time and recorded content creation. The

responsibility for the actualization of content creation was passed on to the instructors without any detailed information about the preferred nature of the content. Thus, the materials of course content could be selected more or less freely, while the individual instructor's autonomy to select a teaching method became constrained. During the first semester of 2020, instructors received updates in an irregular manner. Courses were expected to be held online and in a face-to-face form at the same time. This concept was rejected by the majority of instructors. At one university, the education support team proposed a mixed method for teaching engineering classes that needed the practical application of various devices and tools. The

minimum teaching time for content was set to 25 minutes per credit per week. Accordingly, the average undergraduate course content must have taken at least 75 minutes per week. Originally, the length of face-to-face classes was set to twice 75 minutes to earn the three credits. Accordingly, the length seems to be halved, but one should take the longer preparation and recording time of courses into consideration. In the second semester, these regulations were modified in such a way that the minimum recorded content had to be 75 minutes long and a session of at least 30 minutes, designed to interact with the students, was added to lectures of the T3 type (Table 2, Table 3).

Table 2

Detailed Information on Lecture Formats Implemented in 2020 at a Korean University

Subject	Onsite/Online teaching	Lecture format	Note
Experimental or Practical	onsite lecture	T1	Online for the theory part, onsite for the practical part
General Subject (<50 students)	Combined onsite/online	T2, B1	Face-to-face biweekly
General Subject (>50 students)	Fully online	T3, B2, R	Mixed lectures are allowed upon official request

Note. Administrative instructions through internal group mail sent by Kwangwoon University Education Support Team.

Table 3

Meaning of the abbreviations T, B, and R at a Korean University

Lecture format	Face-to-face	Non-face-to-face		Note
		Live	Recorded	
T1	100%			T: Two-way communication class
T2	50%	50%		
T3		100%		
B1	50%		50%	B: Blended learning
B2		50%	50%	(two/one-way communication parallel lecture)
R			100%	R: Recorded video lecture (one-way communication)

Note. Administrative instructions through internal group mailent by Kwangwoon University Education Support Team.

Nevertheless, this has never been scrutinized, as the information changed again and again over time, and the university administration checked only the length of recorded classes. Many instructors compensated for the shortage by means of additional real-time lecture time. The university claimed that they could not monitor these aspects of online education and therefore advised the instructors to comply with the frequently changing regulations. In this manner, the university instructors were overloaded with rapidly changing information and had to re-adjust the speed of teaching while considering how to provide students with the most effective

assistance. Many instructors were no longer able to fully comply with the regulations introduced by the education support team.

After the implementation of these rules, neither instructors nor students knew which course would be taught onsite and which one would be taught online on a given week. In response to their complaints, the regulations were changed in such a way that each week online and onsite lecturing method were implemented for 2021. The recorded or real-time content could be practiced during face-to-face lectures, and content-related questions could be raised within the same week.

Table 4

Changes of Lecture Contents Implemented in the second semester of 2021 at a Korean University

Lecture operation method	Non-face-to-face process (3-credit-based)
100% pre-recorded (R)	Recorded video > = 75 minutes + interaction = 150 minutes
Onsite + real-time online lecture (T2)	Face-to-face 75 minutes + real-time online lecture 75 minutes
100% real-time online lecture (T3)	150 minutes long
Onsite + recorded content (B1)	Face-to-face 75 minutes + recorded content > = 37.5 minutes long (recommended 40 minutes)
Recorded content + real-time online lecture (B2)	Recorded content > = 37.5 minutes (40 minutes recommended) + 75 minutes of real-time online lecture

Note. Administrative instructions through internal group mail sent by Kwangwoon University Education Support Team.

For the second semester of 2021, further specifications were added for non-face-to-face course content, as described in Table 4. The above table shows that if instructors created content during the first two semesters of 2020, they could use only a part of this content during the next period of the academic year. This restriction further lengthened the instructors' working time, for which they were never compensated by the university.

In 2021, many instructors wondered why the university re-imposed the regulation that only lectures attended by over 50 students were to be taught completely online if this regulation had to be canceled right after its first introduction in the second semester of 2020. During the first semester of 2021, there was an

attempt to introduce face-to-face teaching for half of the courses, that is, for the classes attended by less than 30 students. This regulation was implemented at a time when the South Korean authorities enforced Level 2 and 2.5 social distancing measures. Due to the low number of infections, it could be successfully implemented. Recently, due to the Delta variant of COVID-19, Level 4 social distancing – the highest level so far – has been maintained for a month. In light of the high recent infection numbers, the plan to introduce face-to-face teaching for courses attended by less than 50 students appears unfeasible for the time being. Still, the university administration may postpone decision-making until the last moment, as it repeatedly did since the onset of the COVID-19 pandemic.

The Decreasing Quality of Education

Zhang et al. (2020) and Watermeyer et al. (2021) pointed out that teachers did not necessarily have the appropriate skills to be able to suddenly and easily switch from face-to-face education to online teaching. In response to the recent changes brought by the pandemic, instructors resorted to practices of learning-by-doing or imitating the face-to-face approach, which could (and often did) result in quality loss in the educational process. Hodges et al. (2020), a temporary shift to a new teaching method under crisis circumstances (e.g., the COVID-19 pandemic) cannot be compared to a well-planned and well-designed remote online education system, let alone to face-to-face learning.

Although South Korean citizens are usually well-versed in modern technologies, the technical challenges of online education might force some senior teachers to opt for early retirement or some other form of employment. Their departure is bound to cause a loss of organizational experience because they leave their universities before transferring their organizational knowledge to the newly appointed instructors. If they do not leave the educational system, then their limited technological abilities and low self-esteem are likely to hinder them from producing high-quality content and produce an adverse effect on their psychological well-being. In turn, their unsatisfactory performance generates increasing dissatisfaction among their students.

It can be observed that the quality of knowledge assessment decreases in tandem with the declining quality of education. Although the technologies aimed at providing teaching and learning have been developed for years, the assessment dimension is still often underdeveloped (Timmis et al., 2016). Sahu (2020) emphasized that assessment methods originally designed for face-to-face learning cannot be easily applied to online courses. Both students and faculty members are uncertain about the procedures to be used to evaluate assignments and projects.

Although university administrations provided guidelines for conducting face-to-face midterm and final examinations, most instructors opted for real-time online assessments, presentations, or final term papers. Consequently, many instructors have to cope with an increased workload, as the regular evaluations are combined with a number of quizzes, reports, and recorded presentations. The universities could reduce this additional workload by providing instructors with standardized quizzes. Such quizzes could be instrumentalized not only as evaluation methods but also as a component of the study performance for each individual student. It may be expected that students will retain the information memorized for the midterm and final examinations and utilize it in their future activities (Vaessen et al., 2017). The experience shows that the learning and information systems are still unreliable in providing all necessary information on students' online class participation. As long as assessments are made online, there is a high risk of cheating and misuse of course materials. To overcome these problems, Sundarasen et al. (2020) suggested that instructors should pursue continuous evaluation throughout the semester (e.g., by designing homework with a certain degree of complexity) in order to ensure the objectivity of assessments and prevent cheating and plagiarism. Another preferable alternative is the so-called open-book online examination. Under the conditions of the pandemic, universities should re-examine their assessment methods for online courses, which should be distinguished from the methods designed for face-to-face teaching. To establish the conditions for real-time online assessment, the government could request universities to purchase devices for managing attendance, such as fingerprint recognition, SMS authentication, or a public key infrastructure (PKI) authentication system. In turn, students should use webcams during examinations.

The Financial Impact of COVID-19

South Korean universities are confronted with a variety of financial difficulties: a decline in domestic tuition revenues due to the decreasing number of Korean students as well as the students' reluctance to pay for online lectures; decreasing tuition revenues due to the falling number of foreign students; and additional expenditures due to the need to install technical equipment for remote teaching.

The aging of South Korean society has placed an increasing burden on the system of higher education. Furthermore, many Korean students refused to pay tuition fees or requested refunds; the instructors' overuse of external materials as recorded content generated discontent among students; and under the conditions of online and recorded courses, instructor-student communication and student participation were adversely affected. Students argued that online classes would never satisfy their needs to the same extent as face-to-face teaching did (Lee, 2020b). They demanded compensation through a reduction of tuition fees. Due to the already existing tuition freeze, a direct temporary cut of tuition fees was out of the question, but many universities agreed to a partial refund of tuition fees. Students perceived the refund, implemented as it was by means of a short-term scholarship, as a gesture rather than a real solution since both the value of the scholarship and the quality of education remained low. To resolve these problems and enhance the quality of lectures, universities implemented guidelines to reduce the share of prepared and pre-recorded materials and increase the real-time online courses through Zoom and WEBEX meetings. Nevertheless, in the case of experimental and practical subjects, these methods were less feasible because students must repeat certain tasks during course time. Students criticized the university administrations because no reduction of tuition fees occurred, and the quality of remote learning could not be compared to the college life experience. They also complained that online classes were difficult to follow because technical defects hindered real-time communication (Han, 2021).

While most of the regulations and financial subsidies have targeted domestic students, the central government and the local authorities also endeavored to mitigate COVID-19's adverse impact on the internationalization of higher education. As long as the impact of the pandemic remains significant, the universities will have to make intense efforts to keep the remaining international students. On the one hand, they strive to attract foreign students by offering courses particularly tailored to the latter's needs; on the other hand, tuition fees were increased on various pretexts, such as "providing improved welfare facilities to foreign students" or "increasing the number of scholarships and providing more Korean classes for foreign students" (Bahk, 2021; Kang 2019). Many universities hope that they will be able to raise tuition fees for foreign students without encountering significant resistance.

During the first semester affected by the pandemic, the Dong-A Ilbo newspaper and the Korea Private University Presidents' Council carried out a joint survey to assess the damage caused by COVID-19. The survey's results showed that the presidents of Korean private universities were strongly concerned about the effect of the pandemic on their universities: 30% of the respondents expected high-level financial damage, 61% foresaw medium-level damage and a mere 9% were of the opinion that their universities would suffer only low-level damage. The respondents expected that issues related to equipment and content for remote teaching would pose the most serious difficulties (70.5%). Other problems foreseen by them were additional expenditures caused by the pandemic (43.2%); students' dissatisfaction (36.4%); insufficient support by the government (29.5%); and a declining influx of international students (18.2%) (Kim & Lee, 2020).

Recommendations for the Resolution of Current Issues

The problems analyzed in this paper may be at least partially solved. So far, online teaching methods have been regarded as a part of a holistic solution to keep university life going on during the pandemic. An empirical study on the standardization of online course materials and assessment methods could help instructors to overcome the aforesaid problems, reduce the stress they experience, and render it easier for them to continue their research activities. The university administration should not simply guide faculty members but also co-operate with them and provide incentives for joining the standardization efforts. The use of standardized assessments would help both students and instructors since students would be able to prepare for the examinations and quizzes in an adequate way, and instructors could benefit from large-scale examinations. Furthermore, universities focused on computer science education could

collaborate and develop their own learning management systems and meeting platforms instead of using subscription-fee-based third-party services that would carry such risks as copyright violations and privacy infringement. Since online learning requires more time for preparation and practice than face-to-face classes, and it creates a sense of isolation, instructors should ask students to actively participate in course discussions and create teams. Studying in teams may alleviate the psychological pressure on students. Regularly scheduled teamwork may help students to overcome procrastination and improve their time-management skills. The active utilization of social media platforms (such as Kakaotalk in South Korea) appears to be helpful as students feel less neglected by their instructors. Undoubtedly, not all subjects can be changed along the lines of these recommendations, but, judging from the author's observations, the adoption of at least some of the recommendations may enhance the students' motivation to study and participate in class discussions.

Research Recommendations

Aggregated data and information from all stakeholders would help them to understand their necessities. Instead of temporary quick fixes, suggestions for strategic and long-term solutions are needed to enhance online studying and increase the quality of education despite the negative impact of the pandemic. Further studies could identify the factors conducive to reducing the stress experienced by faculty members and students alike. It would be advisable to investigate how subsidies might motivate faculty members to create high-quality content for online learning and whether the government should provide incentives to promote assessment standardization. These measures may enhance the level of satisfaction felt by Korean students, thus dissuading them from demanding a full refund of their tuition fees.

Conclusion

South Korean higher education is in the process of continuous evolution into a regional higher education hub. This evolution is driven partly by the guidelines and regulations imposed by the administrations and partly by the challenges that the universities must face. These challenges include the increasing financial pressure caused by the decrease in tuition revenues, the stringent monitoring by the Ministry of Education, the decreasing number of international students, and the university administrations' preference for quick fixes rather than well-considered, strategic decision-making. The COVID-19 pandemic has just further aggravated these problems and created some additional difficulties.

South Korea's efforts to internationalize the system of higher education and attract a growing number of foreign students have been adversely but not fatally affected by the pandemic. Although there has been a decline in the number of foreign students, South Korea's developing regional higher education hub has been hit less hard than major established higher education hubs worldwide. Unlike many other countries, South Korea has not only allowed the continued influx of international students but also implemented a well-structured step-by-step process to mitigate COVID-19's impact on both international and domestic students. Guidelines were created to protect international students and dampen xenophobia.

While the government strove to promote participation in online courses, other stakeholders in internet-based remote learning were confronted with the increased workload, negative psychological effects due to a lack of socialization, and dissatisfaction with the contents delivered online. Universities enjoy high-level autonomy as far as the course content is concerned. The government created regulations for content creation only for primary and secondary schools but merely encouraged universities to use virtual conference platforms for real-time online classes and record the course content so that all students could equally participate despite the social distancing restrictions. Some university administrations created additional guidelines for content creation and teaching methods, while others just instructed professors and lecturers to use virtual conference platforms instead of creating recorded materials. Instructors had no choice but to create content without knowing even the

minimum technology requirements. Thus, during real-time online classes, technical glitches frequently occur without being noticed by the hosts. Such glitches either prevented students from following the class or adversely affected their concentration. If professors and lecturers created pre-recorded content, any change in lecture time was likely to force them either to delete the recorded content or edit and re-render it with additionally prepared content. To compensate for the additional workload, many professors and instructors implemented external content that had originally been uploaded to video-sharing platforms. When the students recognized that external sources were being used, their satisfaction predictably decreased. Their requests for refunded tuition fees or for some compensation for the declining quality of education remained unfulfilled during the first semester of 2020, but universities eventually agreed to provide at least a modicum of compensation. The problem of quality loss could also be observed during assessments. Since the learning management systems are still unable to authenticate users, there is a high risk of misusing the system. Although present-day technologies are capable of managing attendance and authenticating users, they have not been widely utilized yet.

The decreasing number of students increases the financial pressure on universities. As the universities face a decline in revenues, they try to increase the tuition fees of foreign students. Since the latter's tuitions are not subject to the domestic tuition freeze regulations, it is possible to increase their tuition fees step by step, but an abrupt and drastic tuition hike would probably generate resistance among foreign students, too.

To resolve the structural problems aggravated the impact of the COVID-19 pandemic, all stakeholders should be included in the decision-making process. Thus, the university administration should involve professors and instructors in the process of determining which course is subject to which regulations and how long the real-time and recorded contents should be. The administration could also support instructors in standardizing evaluation processes. This approach would grant instructors more time to assist students in building study teams, which would, in turn, reduce the feeling of isolation and enable students to build their social networks.

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