

Higher Education Policy Model During The Pandemic: Lesson Learned From University Students

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Abstract

Purpose: The primary purpose of this study is to identify models that contribute to the effectiveness of policies and institutions in managing online learning in Colleges during the mass pandemic.

Methodology: This research will be conducted using a mixed method. The survey was carried out using a questionnaire to groups of college students. The data analysis includes statistical analysis to determine the frequency and description of the survey data obtained.

Results: Several aspects must be intervened from this condition. This is related to managing incentives and financial assistance to student groups. There is a need for planning and adjustments regarding financial aid management. Then, the aspect of stakeholder involvement will be related to the role of educational institutions as regional, central and non-government actors. The aspect of policy adjustment will intersect with legislative institutions or policies at the regional and central levels.

Limitations: This research is limited to regional scope studies, so it requires comparison with other regions with more adequate educational resources.

Contribution: In the future, the model can be developed to strengthen the need for a mixed education model by combining technology and a human touch so that the online education model can feel more humanist.

Novelty: The resulting model combines policy and institutional aspects as an intervention package for higher education in times of crisis, such as a pandemic.

Keywords: Higher Education, Online Learning, University Students, Policy Model

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1. Introduction

The non-natural disaster of the COVID-19 pandemic has had a profound impact on the implementation of education, where schools and campuses are forced not to do face-to-face learning and are forced to change their teaching methods to virtual (Hossain & Yasmin, 2022). However, this rapid change does not necessarily appear as an effective solution. One of the problems that arise is the unpreparedness of teachers to manage stress due to the implementation of online learning activities. Learning is carried out with all limitations, both teacher knowledge about online learning and online facilities that do not support it. Areas with an internet network and teachers with self-taught learning spirit participate in online webinars about online learning so they can finally do it online (Yuhana, 2020). Similarly, at the tertiary level, students and lecturers who had previously expressed a lack of interest in online learning

were required to deliver online lectures (Wena, 2020). These conditions harm children's interest in learning at the secondary and upper education levels (Sulistyawati, 2020).

In 2021, the Indonesian government made a policy to reopen the face-to-face learning process with various terms and conditions. It must be admitted that this is a bold step considering that the pandemic is still ongoing and cannot be overcome effectively (Bahasoan, Ayuandiani, Mukhram, & Rahmat, 2020). In this case, individual students and students who have maintained immunity so that they do not become victims of the virus or become virus carriers that endanger their families and others. The role of the younger generation is so crucial in handling Covid-19. With good adaptability in this digital technology era, it is expected to provide education to the community, especially those left behind in information (Afiati, Khairun, Prabowo, & Handoyo, 2020).

The student and student group is a reasonably large segment where the total population in Lampung Province in 2019 was 9,302,935 people, so in a ratio, their number covers 14.90%, whereas the student group in Bandar Lampung is 64,560 people (Disdukcapil, 2019). Bandar Lampung is the largest in the scope of student groups, especially in three state universities. Related to the above description, policy and institutional interventions are needed to be an alternative solution to overcoming online learning problems at the university level (Farooqi, 2022). This solution becomes a model that can summarize identifying a series of factors, the potential for model development, and strategies for model implementation. Therefore, the main objective of this study is to identify models that contribute to the effectiveness of policies and institutions in managing online learning in universities during the pandemic.

2. Literature Review

Education, by its nature, is a personal item because it meets the criteria of *rivalry* and is *excludable*. Someone needs to compete to get a good education; that is why it is called *rivalry* (Daud, 2020). There are administrative requirements that need to be met by the person to be able to take education, which is called *excludable*. According to public finance theory, education has a positive externality impact. This makes the government need to intervene so there is no *underprovided* education (Akbar & Noviani, 2019). The following are the externalities of education according to the theory of public finance (Kurniawansyah, Amrullah, Salahuddin, Muslim, & Nurhidayati, 2020): (1). Productivity, education has a high quality, it will make a person a more productive worker, thus obtaining a higher standard of living. (2). Citizenship and education can make citizens more informed and active participants in the democratic process and reduce crime rates. (3). The failure of the education credit market, the failure of the credit market to create loans that will increase the total social surplus by financing productive education, (4). Failure to maximize family utility, family preferences are more concerned with the utility of consumption of other goods than investing in education so that education is better provided by the government (5). Redistribution, families with high incomes will try to provide higher education for their children than families with lower incomes. So, retribution is needed from the rich to the poor so that education consumption can be evenly distributed.

For these reasons, the government needs to intervene so that education is not *underprovided* (Irianto, 2017). The question is, how is the government involved in the education sector? The government has two options/alternative ways: the price and quantity (Akbar & Noviani, 2019). The government can provide subsidies for education to students as a form of the price mechanism and certain forms of education as a quantity mechanism (Kurniawansyah et al., 2020). In the era of the COVID-19 pandemic, in 2020 and 2021, the government needs to intervene so that the quality of education in Indonesia does not decline due to the rapid spread of the coronavirus. The government has made various learning adjustments through the Ministry of Education and Culture (Kemendikbud) during the COVID-19 pandemic, such as Ministry of Education and Culture with Letter No. 2/2020 on COVID-19 Prevention and Management and Letter No. 3/2020 on Provisions for the prevention of COVID-19 in academic units. A new form of learning activity is home learning (online) (Firman & Rahayu, 2020). Education and Culture Minister Nadiem Makarim said nine policies and programs had been implemented during the COVID-19 pandemic. It does not stop there; due to the impact of the COVID-19 pandemic, the

government has instituted a plan to accelerate Indonesia's economic recovery, the National Economic Recovery Plan (PEN). The government wants to focus on many recovery sectors, including education (Pakpahan & Fitriani, 2020). The Department of Education's PEN program promotes students through Internet quotas and the Educator Wage Subsidy Program (BSU) (Atsani, 2020). Under the theory of public finance, education has a positive externality, so the government needs to intervene so that it does not occur *underprovided*, especially in this era of the COVID-19 pandemic.

Distance education via the internet dates back to the 18th century. From its inception, distance education has relied on a wide range of technological tools to facilitate instruction. The development of distance education can be summarized by looking at the role that various technologies have played throughout the field. For example, Taylor (Firman & Rahayu, 2020) divides the distance learning generation into five (5) generations, namely: (1) corresponding models, (2) multimedia models, (3) distance learning models, (4) modeling flexible learning, and (5) more innovative and flexible learning models. In the fourth and fifth generations of distance learning, the trendy jargon in the community, such as e-learning, online learning, and mobile learning, was born, further popularizing the phenomenon of distance learning (Nasir & Neger, 2022).

In other words, the internet is not the only medium for distance learning. When you combine online resources with an organized method of online instruction and assessment, you have online learning (Pujilestari, 2020). Therefore, the main distinction between online learning and merely online learning material is the presence of interaction (Baber, 2021). Learning interactions include those between a student and his or her instructor (teacher), other students, and the course content (Astini, 2020). Online learning creates a learning experience through three types of interactions.

Bates (2011) describes technology as the equipment used to support the learning/education process in the form of computers, software, communication networks, and printed books (Adijaya, 2018). While the media is a term that contains the meaning of 'deliver' and 'interpret.' So 'media' is a product that contains content (communication material) created by someone and understood by the person receiving the communication (Anggrawan, 2019). Text, graphics, audio, video, and computing can be categorized as media because they can be a meaningful introduction to 'ideas' and 'images.' According to Bates, media can also be seen broadly as a way of representing, organizing, and communicating knowledge (Dumford & Miller, 2018). However, the media are dependent on technology. If we look at the era of its use, the use of ICT in education can be distinguished in several periods along with the development of ICT itself. Taylor (2000) distinguishes the use of technology in education (especially in distance education) into five generations of models: the correspondence model, the multimedia model, the tele-learning model, the flexible learning model, and *the intelligent, flexible learning model* (Sukardi & Rozi, 2019).

3. Research Methodology

This research will be conducted using a mixed method. The survey was carried out using a questionnaire to groups of college students. The group with the highest mobility and burden is the group of students in college. This group has vulnerability because of their higher social mobility, so they are vulnerable to contracting the virus. Therefore, this research will focus on student groups as a sample, namely university students. Because 100 participants would be too large of a sample size, we capped the sample size in Roscoe's opinion. This investigation suggests the following criteria: (1). People currently enrolled at one of Bandar Lampung's educational institutions (2). The bare minimum age is 20 (3). Throughout last semester, an engaged participant in online lectures.

The survey was conducted twice, once in March 2021 and once in May 2021. The Likert scale was used to create the questionnaire, which displays consumer reactions to the choice features (Etikan & Bala, 2017). The information obtained with the Likert scale is in the form of an ordinal measurement scale, where this scale sorts data from the lowest level to the highest level or vice versa with unequal intervals (Ahmad & Halim, 2017). The data analysis includes statistical analysis to determine the frequency and description of the survey data obtained. First, frequency analysis uses a questionnaire that contains

open-ended questions so that the resulting data is more prosperous, sharper, and often more insightful (Krosnick, 2018). Data analysis is intended to simplify the data obtained into a form that is easier to read and interpret through statistical data; one of the first steps in data analysis is compiling a frequency table (Boparai, Singh, & Kathuria, 2018). In addition, qualitative analysis was also carried out to improve data analysis. This step aims to describe the characteristics of the research sample.

4. Results and Discussions

According to the survey results, the profile of the respondents who completed this questionnaire. Regarding gender, it appears that women (63% of respondents) have the most access to online learning, while Internet access at home (82% of respondents) has the most access. Female responses outnumber male respondents in the gender category, which is logical given that female students outnumber male students in several universities. The intermediate category (70.8%) is the dominant category in computer literacy; this category includes people who have frequently used computers and their applications for routine activities and unique applications that do not require high skills. In the visual category, the learning style category appears dominant (61.5%). This is summarized in detail in the table below:

Table 1. Respondent Profile

No	Category	Sub Cat	Qty	%
1	Gender	Male	27	28.1
		Women	61	63.5
2	Location of Access	Campus	1	1
		House	82	85.4
		Public Location With Free Wifi	2	2.1
		Location with paid Wifi	6	6.3
		Others	6	6.3
3	Computer literacy	Elementary	14	14.6
		Intermediate	68	70.8
		Expert	14	14.6
		Very Expert	0	0
4	Learning Styles	Visual (dominant through seeing / observing)	59	61.5
		Verbal (dominant through reading)	18	18.8
		Experimental (happy to try)	9	9.4
		Motor (by moving)	10	10.4

Furthermore, the survey results identified several findings related to respondents' expectations in policy evaluation during the pandemic. In the category of choice of learning process policies that are felt to be more in line with the conditions of this pandemic, face-to-face choice with health protocols appears dominant (39%). This shows the anxiety of the student group in participating in online learning during the pandemic, and there is a satisfaction that is felt to be irreplaceable from face-to-face lectures. The answer choices in the next dominant position are online learning with more two-way interactions (38.5%). This shows that online learning needs to be designed with a more interactive atmosphere in two directions. This is the weakness of the online learning process so far.

In the following category, choices of learning support policies felt more suitable for your conditions during this pandemic, the dominant choice of adjusting tuition costs (56.3%). This shows that there is student hope that online learning conditions where students do not fully enjoy the facilities on campus should be accompanied by adjustments to tuition fees. Parallel to this choice, it appears that the option of subsidizing online learning data quotas is in the second dominant position (26.0%). This also seems

to be in line with students' views on the choice of answers to tuition adjustments, although they can still accept the rationality of the pandemic condition as a situation that the authorities cannot quickly resolve.

In the third category, choices of learning support policies that are felt to be more suitable for your condition during this pandemic, the dominant answer appears to be the allocation of free internet access for groups of students and students in settlements (34.4%) which indicates that the financial aspect is the main hope of student groups that should be addressed in online learning policies. In the following position, the choice of learning patterns answer (completely online, mid-online, or offline) appears to be the second dominant (27.1%). This again shows that the respondent group feels blended learning alternatives will be better than just online.

Table 2. Identification of Student Group Policy Options

No	Category	Sub Category	Amount	%
1	choice of learning process policies that are felt to be more in line with the conditions of this pandemic	face-to-face with health protocols	38	39.6
		online learning with more two-way interactions	37	38.5
		online learning with more video material lectures	17	17.7
		online learning with text-based applications	4	4.2
2	choices of learning support policies that are felt to be more suitable for your conditions during this pandemic,	subsidizing online learning data quotas	25	26.0
		adjusting tuition costs	54	56.3
		providing IT-based learning materials	3	3.1
		innovative mentoring patterns learning	14	14.6
3	choices of learning support policies that are felt to be more suitable for your condition during this pandemic	provision of online learning tools for underprivileged students	25	26.0
		there is an allocation for free internet access for groups of students and students in settlements	33	34.4
		Providing online learning companions in the student domicile area	12	12.5
		there is a choice of learning patterns (fully online, mid-online, or offline)	26	27.1
4	Institutional priorities (universities) in learning during this pandemic	providing subsidies for learning devices	17	17.7
		adjusting learning weight	9	9.4
		adjustments tuition fees	67	69.8
		postponement of courses that contain field practice	3	3.1
5	Institutional (government) priorities in learning during this pandemic	providing subsidies/scholarships for tuition assistance	62	64.6
		provision of facilities/access to free online learning	22	22.9
		provision of social and psychological counseling / mentoring	7	7.3
		supervision of learning/monitoring of online learning by universities	5	5.2

In the following category, Institutional priorities (universities) in learning during this pandemic, it is known that the dominant choice is adjustment tuition fees (69.8%). This shows that tuition fees are the burden that the respondents feel the most impact, so there should be policy interventions related to this aspect. The next dominant position is providing subsidies for learning devices (17.7%). This again shows that the financial aspect is the central aspect that is the main focus of the student group that should be intervened through specific policies. The fifth category, Institutional (government) priorities

in learning during this pandemic, shows that the dominant choice is providing subsidies/scholarships for tuition assistance (64.6%). This is further strengthened if the financial aspects of the leading group of students need to be considered (Sunarti, Hafizah, Rusdinal, Ananda, & Gistituati, 2022). The next position is the provision of facilities/access to free online learning (22.9%). This shows that if the pandemic becomes a burden for student groups, then policy support on financial aspects or accessible facilities in online learning will be very much needed.

Implications for Policy: Lesson Learned Model

This condition must intervene in several aspects of managing incentives and financial assistance to student groups. There is a need for planning and adjustments regarding financial aid management. Then, the stakeholder involvement aspect will be related to the role of educational institutions as the regional, central and non-government actors (Isnaini, Melisa, Rusdinal, & Gistituati, 2021). The aspect of policy adjustment will intersect with legislative institutions or policies at the regional and central levels. The following is a design model that can be built into this research:

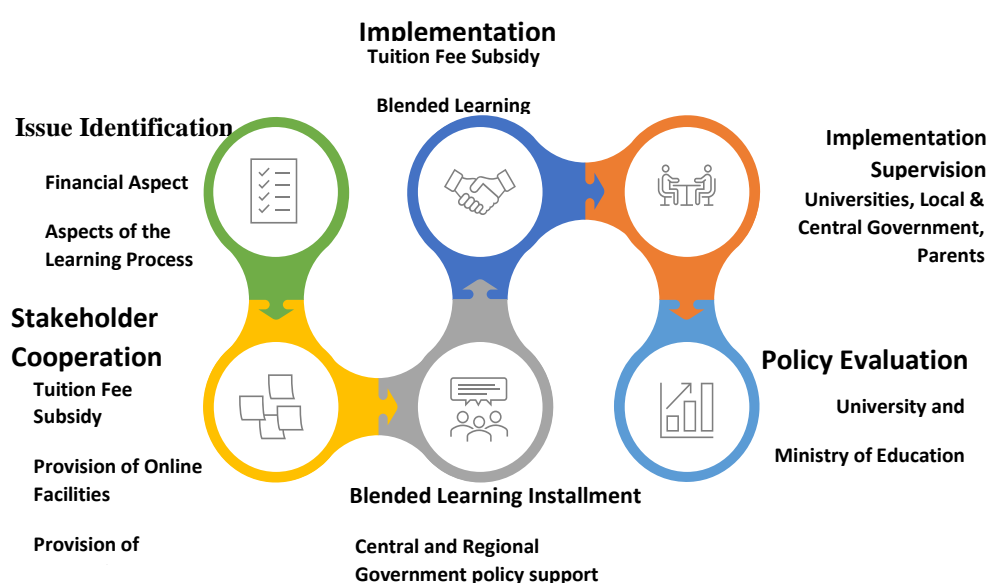


Figure 1. Policy and Institutional Model of Online Learning

Alternative interaction models, such as station rotation and blended learning, are required in the learning process. Station-Rotation blended learning incorporates all three stations or spots into a single face-to-face hour (Septiana & Sari, 2015). For example, one face-to-face meeting lasts 90 minutes, and the 90-minute face-to-face time is divided into three times (30 minutes) for each stage in a different location. The three locations are online instruction, teacher-led instruction, and collaborative activities and stations (Yang & MacLeod, 2019). (2). Blended Learning Lab Rotation, The Lab Rotation Blended Learning model, is similar to Station Rotation in that students rotate stations according to a predetermined schedule. However, it is carried out in a unique computer laboratory that allows flexible schedule arrangements with the lecturer (Truitt & Ku, 2018). Thus a computer laboratory is needed. (3). In Remote Blended Learning or Enriched Virtual, students focus on completing online learning in Remote Blended Learning. They do face-to-face learning with lecturers only occasionally, as needed. This approach differs from the Flipped Classroom model in balancing face-to-face online teaching time (Dakhi, JAMA, & IRFAN, 2020). In the Remote Blended Learning learning model, students will not learn face-to-face with the lecturer daily but in a flipped setting. Students complete the learning objectives individually.

Afterward, (4). Flex The Blended Learning model allows for some leeway in terms of how much of a student's education takes place online and how much takes place in a traditional classroom setting. Real-world instruction is supplemented by personalized online timetables that allow students to continue

their education after class has ended (Nugraha, 2021). Most students have yet to leave campus to do anything besides their homework. Personal tutoring, small-group lessons, and other forms of individualized instruction are just a few ways that instructors offer face-to-face assistance to students.

(5). The Inverted Lecture Hall The most well-known implementation of Blended Learning is the Flipped Classroom model. At the outset of the Flipped Classroom model, students study previously presented material online at home or outside of class (Yang & MacLeod, 2019). After carrying out the online learning process outside the campus, students then deepen and practice solving problems on campus with lecturers and classmates. Thus it can be considered the role of traditional learning in the classroom to be "reverse." This learning maintains the traditional learning format but is carried out in a new context. Then, (6). Individual Rotation Blended Learning Individual Rotation Model allows students to rotate through stations according to an individual schedule set by the lecturer or a software algorithm (Nugraha, 2021). Unlike other rotation models, students do not need to rotate to each station; they cycle to the scheduled activity on their playlist.

Mixed learning models will probably continue to expand and diversify (Dakhi et al., 2020). Several educational institutions have begun implementing at least a few models, such as: (1). Integrated project-based education Students use online learning and face-to-face teaching and collaboration to design, repeat, and complete learning tasks based on Projects or specific products in a project-based learning environment. Online learning may consist of online learning with pre-prepared forms or materials or independent access to the necessary learning resources. Utilizing online resources to support project-based learning is the primary feature of this learning. (2) In Combined self-directed learning, also known as self-directed mixed learning, students combine online and face-to-face learning for formal learning objectives and research. They interact with teachers in person and online. Because online learning is self-directed, roles and instructors change, and there are no formal meetings or online learning to complete. A challenge for the instructor in this study is determining how to evaluate student learning and success without compromising authenticity (Truitt & Ku, 2018). In the meantime, the challenge for students is to identify a product, method, and potential models that will motivate them to be consistent learners. In addition, students must comprehend what works and why and make the necessary modifications to conditions that do not meet expectations or ideal conditions. Some students do not require guidance, whereas others require support through visible lines to independently engage in learning. In Blended Learning Inside-Out, learning is designed to be completed or concluded outside the classroom by combining the benefits of face-to-face physical and digital instruction. However, the Outside-In and Inside-Out model emphasizes classroom learning, while online learning is a supplement (Nugraha, 2021). The online learning component may consist of self-directed research or formal e-Learning. When viewed from the perspective of the learning pattern, project-based blended learning is an excellent illustration of the Inside-Out model. Like Outside-In, this model requires expert guidance, learning feedback, content instruction, and daily face-to-face interactions to provide psychological and moral support.

Other models include: (4). The term "Outside-In" refers to a blended learning style in which instruction is supplemented by students' everyday experiences in the real world and online. As a result, students will have a richer, more fruitful academic experience in the classroom. When students interact in a face-to-face setting, they can learn from one another, share ideas, work together, and receive and give constructive criticism (Yang & MacLeod, 2019). The various pedagogical "areas" must be carefully orchestrated to maximize their combined effectiveness. This strategy for learning continues to call for regular one-on-one instruction, mentoring, and coaching. (5). Additional Blended Instruction: In this configuration, students either engage in wholly online learning to supplement their face-to-face learning or wholly face-to-face learning to complement their online learning. The key concept is one of complementarity. When meeting learning goals, one classroom (physical or virtual) is sufficient, while the other offers students something unique. If they only visit one location, they will miss out on this unique opportunity. (6). With the Mastery-Based Blended Learning model, students alternate between online and in-person instruction. They are successfully achieving goals based on in-depth knowledge acquisition. Mastery of particular skills informs both the structure and distribution of online and in-person education. When it comes to learning that is based on mastery, assessment design is crucial

(Septiana & Sari, 2015). Depending on the instructional designer's perspective, assessing the efficacy of face-to-face and digital learning environments can be pretty challenging.

That the current education financing model in Indonesia is a standard model that refers to government policies, but it is not sufficient to bind universities and overcome education financing problems, so many students and the public are still burdened with the problem of education costs during the Covid-19 pandemic (Altbach & de Wit, 2020). Government intervention shows a pleasing commitment as a model for policy initiatives but is limited to securing an efficient allocation of resources and supporting economic growth and has not offered an ideal way to address the problem of education financing. A well-designed education financing model has an essential role in improving the quality of continuing education and overcoming deficiencies in the current models and approaches (Ping, 2021). Under any circumstances, the government is the one who is obliged to ensure that every citizen gets an education and guarantees access for the lower class to get quality education.

The government needs to reformulate the scholarship scheme for community groups affected by the pandemic, especially higher education will run for a long time. Scholarships are defined as a form of financial aid given to individuals in order to further their education. The award may be granted through specific access to an institution or financial assistance (Mulyaningsih, Dong, Miranti, Daly, & Purwaningsih, 2022). Scholarships are income for those who receive them with several recipient criteria. The criteria for which scholarships may be awarded are groups that affirmatively experience problematic conditions (How, 2020). In addition to scholarships, two models of extracting funding sources should be considered. First, to establish cooperation with industrial centers and the business world through developing various productive activities that bring economic benefits. Second, to raise external funds sourced from individuals, especially successful entrepreneurs or independent institutions with abundant potential for funds. Indonesia has many successful entrepreneurs who have big businesses, so it is not difficult to be asked to donate some of their wealth to help those less fortunate (Sj-Siswanda, 2020).

Collaboration between the public and private sectors on education policies, access, programs, and service expansion is essential to keeping up with the rapid development of higher education. For college grads to find employment and advance in their careers, the private sector, government, educators, and policymakers must work together (Moon, Mariadoss, & Johnson, 2019). For example, universities must continue to innovate in human resources, leadership management, and program design for relevant majors. Collaboration must also be affiliated with university research, the demands of civilization, socio-entrepreneurship needs, and ecological balance.

While the pandemic eats away at the cultural revolution, technological progress inexorably alters the public sphere and the workplace. The needs of the global economy and society cannot be ignored in the classroom. Future-proofing higher education will require institutional agility and technological flexibility (Lailiyah, Setiyaningsih, Wediyantoro, & Yustisia, 2021). Educational models must adapt to equip each generation with the skills to create a more inclusive, cohesive and productive world. Universities must be able to facilitate students to learn from practitioners and industry players (Sjö & Hellström, 2019). This is necessary to produce graduates with abilities relevant to the needs of every era and face various disruptions that occur. The world of higher education needs collaboration with practitioners and industry players; on the other hand, industry players need talent and innovation from universities. The Covid-19 pandemic adds to the disruption previously triggered by the Industrial Revolution 4.0. This revolution changed the socio-cultural, economic, and political landscape and shifted various aspects of life, including the world of education (Gleason, 2018).

During the emergence of edutech, higher education institutions must strengthen their position as educational institutions by using digital technology (Neuwirth, Jović, & Mukherji, 2021). Not only to facilitate the teaching of internal lecturers to students, but what is also more important is to facilitate students to learn from anyone, anywhere, and about anything. The curriculum should give credits greater weight for students to learn from industry practitioners and increase the exposure of students

and lecturers to future industry and technology. Learning on campus must also provide opportunities for students to explore and develop their respective talents.

5. Conclusion

5.1. Conclusion

Financial aspects and learning interactions are the two most highlighted by student groups in terms of online lectures during this pandemic. In order to overcome this condition, several aspects must be intervened from these conditions, which are related to managing incentives and financial assistance to student groups. There is a need for planning and adjustments regarding financial aid management. Then, the stakeholder involvement aspect will be related to the role of educational institutions as regional, central and non-government actors. The aspect of policy adjustment will intersect with legislative institutions or policies at the regional and central levels. Post-pandemic higher education collaboration will be faced with fulfilling the digitalization of learning, strengthening relations with industry and accelerating with policy managers at the local level. In addition, challenges in financing education for student groups will require reformulation of scholarship policies, especially those that are affirmative.

5.1. Limitation

This research is limited to regional scope studies, so it requires comparison with other regions with more adequate educational resources. In addition, this research also captures data when Covid cases are in high fluctuation; the data will be different if a follow-up survey is carried out after the Covid case has decreased.

5.2. Suggestions

In the future, a policy model can be developed to strengthen the need for a mixed education model by combining technology and a human touch so that the online education model can feel more human.

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