

Strategic management of virtual education for quality of learning in university students, Covid-19, Peru

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Abstract

The objective of this review article is to describe the strategic management that was given to virtual education in such a way as to guarantee a quality standard of learning for university students in times of pandemic. For this, through a bibliographic review, the state of the art of university management provided during the COVID-19 pandemic is reviewed, in which higher-level educational institutions through their respective administrative areas in union with the state they looked for ways to be able to resume academic activities that had to cease due to the confinement decreed by the Peruvian state, due to this, virtual education was chosen, a model that allowed continuing academic activities, however this led to various new challenges that had to be faced as the model was implemented. It is concluded that, although virtual education in its initial implementation caused various problems, thanks to the strategic management provided by the different universities hand in hand with the Peruvian state, it is possible to provide a quality education taking advantage of the multiple benefits that education offers. virtual.

Key words: *virtual education, university management, administrative management, ICT.*

INTRODUCTION

The COVID-19 pandemic brought several changes with it, in Daniel's words, changing the way people perceived "normality" in this way people had to opt for the "new normal" with which they were forced to communicate

remotely through digital tools, with which areas such as education had to adapt to the problem of distance education. According to (2020)Toquero, it has affected the education (2020) system worldwide, closing educational institutions, which has become one of the biggest challenges for educational institutions

that have moved from traditional face-to-face education to adapt to a digital environment. Chakraborty et al. (2021) They mention that all educational levels were affected and forced to respond to a completely new situation focused on the absence of face-to-face, that is, a forced isolation, this led to virtual education. Cobo et al. mentions that the psychological (2020) level of the students was not optimal during the period of the pandemic due to different factors, while many students even chose to abandon their careers, for this is that educational institutions in the virtual education modality had to also prepare countermeasures that could cushion the psychological damage resulting from the isolation that affected their academic performance, This being a problem that had to be considered by the strategic university management given in the period of the pandemic. Mory et al. (2020) make mention of how this educational model being new in terms of complete implementation is it was necessary to have new public policies by each state globally, specifically the case of Peru not only public policies were given, but the various universities implemented an internal management (university management), which considered the provisions given by the Peruvian state, in such a way that the methodology of virtual education and the various challenges that it brought could be applied. Due to the isolation created by the pandemic, teachers, students and higher-grade educational institutions must face new challenges in terms of educational standards and the use of available digital tools. The virtual process in the educational environment, in the words of Herrera y Toro, (2020) is driven by digital tools and methods that require a greater commitment on the part of students and teachers, this administered by their respective educational institutions hand in hand with the State, which through internal agreements based

on the various Resolutions with their respective states could give a regulation to the extent that virtuality was implemented in education. Virtual education, as mentioned by Meza et al., has now become an opportunity to acquire important skills such as collaborative learning, discipline and independence, time management, technological and digital skills to boost academic performance, but this brings the administrative problems that had to be solved during the implementation of virtual education itself, Thus, this educational model is reliable only if it is managed in the right way for the effective implementation of virtual resources, such as information and communication technologies (ICT), among others under the joint efforts of the administrative area.(2020)

Thus, there are two variables to study in this article, these being university management and education. When talking about the independent variable university management we refer, in the words of Corral et al., to the branch of the university in which the administrative staff has the responsibility of learning to live in change, anticipating with transformative decisions that allow their survival and development of the educational institution to which they belong, e(2020)so leads them to an essentially strategic structure of their management, which is manifested in the systematic adaptation to the changing environment and the common vision of the desired future of the organization, and this in turn the use of human, material and financial resources. Therefore, in the words of Hidalgo et al., et al. the solution required was to find new financing formulas and administrative systems in the university, which contribute to the achievement of the objectives through the optimization of the aforementioned resources. (2021)Bedoya et al. (2021a) It defines this variable as those actions taken by an educational institution that manages and

administers the resources belonging to the same institution in such a way that they can be used efficiently and effectively allowing an academic development of teachers and students in a fluid manner and without many problems, and it is added that the people who carry out the educational management must possess certain competences that allow a management and solution of problems that could appear. Surco mentions that, in university management, and academic management in general, a set of activities are carried out (2018) aimed at facilitating the change of institutional conditions in a spirit of innovation and discovery, finding solutions to problems or needs identified during the development of the teaching-learning process. On the other hand, there is the second variable, this being the dependent variable virtual education, in the words of Cajandilay et al. Before the pandemic it was a futuristic possibility, during the pandemic it was a reality. With the closure of colleges and universities, virtual education has become the main answer to not losing an academic year and, above all, not to lose education itself. Distance education around the world occurred in different ways, but the authors mention that in Peru it was characterized in the first place by the simultaneous or deferred interaction between the actors of the educational process, for which technological tools were used that promote autonomous learning and can complement, reinforce or replace face-to-face education. thus covering learning through these educational opportunities. Each country had its own contingency plans where the common point was that education was going to be remote. (2021) For their part, for Estrada et al. Virtual education is a form of non-face-to-face education originating in distance education that mediates learning through technology using digital tools, virtual spaces and platforms.

Therefore, the authors determine it as referring to a process in which teachers and students are physically and temporarily separated, but they are the first to present the contents of the course through programs, multimedia resources, Internet, videoconferences, etc. Pointing out in this way that virtual education is not only a mechanism to acquire knowledge, but can become a collaborative space for the creation of knowledge, which requires the effort of teachers. (2022)

Internationally, virtual education was ideal for quarantine measures ordered by the world's governments and created the opportunity to study at home as an alternative to courses or learn new knowledge in any field. It began in educational institutions in each of the various academic grades gradually that due to quarantine measures and to prevent contagion, could not carry out their activities in person. The consequences of this pandemic have been reflected in educational practices and educational systems worldwide, since at the time of social isolation around the world, virtual education became very important in the education system. In the words of Bonilla in his study he mentions that this unexpected fact highlights the difficulties and failures associated with the adaptation of the educational system to virtualization, and the various means used to overcome the challenges through a correct management in the various administrative grades, allows to adapt to educational change and this in turn strengthens the teaching and learning process by expanding and / or modifying the learning environment. (2020) Yilmaz et al. (2020) for his part, he mentions in his research that his research aimed to determine the knowledge and opinions of students about distance education in the Pandemic Process, this through a survey is that the author was able to collect information on the management that was had during the

transition process and in the implementation of virtual education. Their questionnaire consisted of 21 closed-ended Likert questions. According to the results of this research, it was determined that the opportunities of the participants such as having a computer and internet affect their views on distance education, so that a poor management and survey of opportunities for participation in virtual education resulted in students seeing virtual education in a bad way during the transition period and that they still maintained some problems regarding the working tools for distance education during the COVID-19 pandemic. Mishra et al. In their study in general they worked under the objective of seeking the essence of virtual education, which were the necessary requirements that universities had to meet in order to implement. It is in this part (requirements to be met) where university management plays the main role, although the authors do not mention it directly, they refer to it in the descriptions they give of the problems that had to be solved which were mostly administrative, and it is in this area where university management has its functions. The authors carry out quantitative and qualitative research in order to achieve their stated objective. For the quantitative part there was a sample of seventy-eight teachers and two hundred and sixty students to whom a descriptive survey was applied, for the qualitative side there were twenty teachers and twenty students an interview. The authors conclude that the transition from traditional to virtual education results in a multimodal education to which it is necessary to adapt constantly since the whole world is leading to a better management of technology in its various areas, and for this it is that it will require a management at the same time as the various challenges that will bring the changes in education modalities. (2020)

At the national level, it is that social isolation was declared from the state of national emergency through Supreme Decree 044-2020-PCM, issued by the Congress of the Republic, (2020) where social isolation measures were ordered, later for the management of university education there was Resolution of the Board of Directors No. 039-2020-SUNEDU / CD of the SUNEDU and Vice-Ministerial Resolution No. 085-2020-MINEDU of the Ministry of Education, which were the ones that guided the implementation of virtual education in the context of the pandemic and thanks to them it is possible to resume academic activities in a non-face-to-face manner. (2020)(2020) Figallo et al. In(2020)his research, he describes how the pandemic has affected Peru, considering its economic and social impact on higher education and government measures to deal with the introduction of online education during the crisis. The report shows which universities have started distance learning and what additional steps they are taking to support their students and faculty. Finally, it lists the online mechanisms used; It analyzes opportunities and problems in this new context. In addition, it provides an account of how universities are lending their knowledge to help overcome the crisis and how they are preparing for what lies ahead. Rueda y Chamorro in (2020) their research mentions the experiences of university management given in a private university from the perspective of students, mentioning the importance of the student body in academic decision-making under the premise that it is the students themselves who can mention the problems they are experiencing, thus showing the social aspect of virtual education which had to be managed also by the Administrative area to solve as soon as possible the various problems that may arise. Huanca et al. (2020) in his research he mentions the social problem of Peru that brought with it

the change to virtuality, given that many students and / or teachers did not have the necessary skills to participate in virtual teaching, this change produced more problems than solutions, thus showing that without good strategic management any new model that is sought to implement is destined to fail. The authors emphasize the importance of management in solving problems thus concluding their article. Morante et al. (2021) in his article he mentions the importance and relationship of university management control during the process of adaptation and implementation of virtual education during the lived context of the COVID-19 pandemic, emphasizing that due to changes and the emergence of new modes of production and use of knowledge, such as virtual education, Educational institutions constantly seek to strengthen and renew the relationship between the teaching of university education and the control of university management, emphasizing the importance of the latter as a mediator and promoter of the effectiveness of the educational model to be implemented. It is in the studies of these authors where they conclude that virtual education, although it was helpful to continue studies, being implemented in many places unexpectedly prevented it from being satisfactory at the academic level for students, since where this problem was seen was in institutions that had only requested the management of technological and didactic skills, However, they had not provided training workshops, which resulted in many teachers having a handle on technologies but did not know how to function in them, thus causing discomfort in the students.

Based on the problems detailed above, the general problem is formulated: How is the university management of virtual education carried out during the COVID-19 pandemic in Peru described?

Taking into account the above, this review article is justified theoretically by seeking to establish the framework of the state of the art of virtuality in education from a perspective of university management, as well as the tools managed and used in the period of the pandemic. As a methodological justification, there is the fact that the methodology to be used is that of documentary research, that is, a bibliographic review describing the university management carried out in Peru during the covid-19 pandemic.

Thus, this project aims to describe the characteristics of virtual education on the learning of university students in times of pandemic from the perspective of university management. For which we proceeded to the realization of a documentary review of various authors that allowed to review the state of the art of the variable's virtual education and administrative management both in the context and period of time of the pandemic in the Peruvian university framework, highlighting the conceptions that were had of them before and during the pandemic.

Literature review

University management of education in pandemic

With the arrival of the pandemic that hit the entire world caused by the COVID-19 virus, it is clear that the challenge for the education system was to support education and develop educational resources. In this case, there are two aspects that were taken into account for this article being the first administrative and the second being the pedagogical field, there are two main factors that must be considered to achieve the success of the specific goal of providing education: virtuality and university management that influence both the work of a teacher and students and their performance.

This created an unprecedented challenge as many teachers realized that they had to train to work in a virtual environment as they were responsible for teaching their students how to manage this environment, as well as imparting the teachings they must transmit.

But what can be done at the educational level to execute remote and inclusive virtual learning that creates real spaces for the generation, mobility and transformation of knowledge? According to Bedoya et al. (2021b), it is necessary to change the schematization and conceptualization of the curriculum itself, which is currently being considered as a non-face-to-face modality under the characteristics of virtual education. In Picón's words, this requires providing or providing challenging and constructive training that demonstrates the acquisition and development of digital skills to facilitate and mediate in virtual learning environments. Specific skills, such as the design of content adapted to interactive distance learning, the use and use of digital tools, the design of learning activities and assessments, and access to information and communication technologies. (2020)

Thus, as mentioned by Tejedor et al., (2020) educational institutions worldwide were forced to give teacher training workshops or, failing that, request the necessary technology and communication skills so that they could develop their activities remotely and in turn be able to support students in case they had problems with the handling of digital tools.

At the same time, they are the institutions which provided the necessary tools by managing them so that students had access facilities either synchronously (live online class) or asynchronously, review of recordings of classes or pre-recorded seminars for review and activities through digital tools, in this way

being able to give the opportunity to both teachers and students to be able to carry out their tasks in a flexible way. Meleán et al. (2021) mention that technological and digital tools, given their asynchronous nature, catalyze new relationships between teachers and students, suggesting that classroom walls may dissolve. Therefore, teacher guidance can be consulted anytime and anywhere, with the help of digital messages and other resources such as virtual education platforms, websites, among other means of information and communication.

The pandemic, as we have already pointed out in what was written above, meant a rapid transition to virtual higher education, which generated that from each of the states a series of measures were taken with the aim of cushioning the impact on this transition between the traditional to the digital, some of the other measures taken by the Ministry of Education and SUNEDU in Peru, in the words of Tafur and Soria(2021) , they were the following:

- 1) For the development of the courses, it was required to incorporate a learning guide that guided students regarding the achievement of academic competences.
- 2) Each university will establish a learning guide which will consider the identification of essential learning, which would allow evaluating the correspondence with the achievements, according to the educational model that each university proposed.
- 3) The universities had to verify that the students to whom the virtualized service was directed had the technological tools and equipment that allowed them to access virtual learning. Some private universities allowed a certain degree of face-to-face attendance for extraordinary cases and under a permit that did not violate the measures implemented by their respective governments.
- 4) The follow-up and

monitoring of virtualized academic activities by teachers was carried out. In the same way, they guided and trained them for the development of academic planning. 5) Each university assumed the responsibility of reviewing, adapting and / or adapting the content of the syllables of the courses to ensure the relevance of the activities to be developed virtually. 6) A record of the students' learning evidences was maintained progressively according to the units, to guarantee the achievement of the competences of the virtualized courses. 7) They used self-assessment and co-assessment tools in the course, to provide students with various possibilities in assessment. (p. 171)

While it may be that from nation to nation the ways of operating and managing virtual education varied this due to the culture that each nation has, it is clear that what has been described above fits in a generalized way some of the many processes that the various universities around the world implemented.

The aforementioned measures were given both in national and private universities due to the Resolution of the Board of Directors No. 039-2020-SUNEDU / CD issued by SUNEDU on March 27, 2020 in which it is specified in its article 1 that the criteria for supervision of the adaptation of the courses to non-presentiality are approved. Likewise, Vice-Ministerial Resolution No. 085-2020-MINEDU of MINEDU approves the necessary guidelines for the continuity and resumption of higher level educational activities in which asynchronous and synchronous learning are described, both in a non-face-to-face manner, the first being the self-learning carried out by students managed by universities through guides or material directed so that students can review the material of the subject of the class; The second being that learning where the

teacher through virtual tools provided by the respective educational institutions can teach the class live in a non-face-to-face way being able to answer the questions that the students saw and deepening in turn in the knowledge of the subject to be treated. Thus, it is through these two resolutions that the foundations are laid for the resumption of education through virtuality, which had its respective characteristics in the period of social financing.(2020)

Education in times of social isolation (confinement)

Thanks to the implementation of the virtual learning environment, which was initially in use and had some disadvantages, but due to the existing emergency situation had to be implemented in a hurry, it allowed them to resume academic activities. This is thanks to the use and management of Information and Communication Technologies (ICT), ICTs are defined by Granda et al. as the technologies necessary to manage and transform information, where computers and programs that allow the creation, manipulation, storage, maintenance and retrieval of important information in various fields are especially important. ICT, according to (2019)Tabatabai, contribute to a new (2020) understanding and perspective in contemporary schools that use these technologies in new ways of teaching and learning without forgetting the fundamentals of traditional education, causing different attitudes and opinions on the use and exploitation to achieve education, that is, they are resources that provide a space for self-learning for teachers from the design and creation of work environments cooperative and collaborative, in addition to achieving significant student learning. On the other hand, asynchronous assessment, teacher reinforcement activities, among many other

ways, have unlimited possibilities to monitor and evaluate the academic success of students.

In the words of Boom et al., (2022) given that, faced with the shift from face-to-face teaching methods to remote or distance learning, schools are increasingly relying on the use of existing and ready-to-use ICT tools in education by teachers, which is unusual in education, since the ismas were used more frequently due to the pandemic that spread throughout the world. Terms such as virtual space, online, virtual community, remote presence, virtual environment, etc., are brought to education and were part of the educational community, playing an important role in this change through ICT, allowing family-social relationships, student learning and teacher participation to adapt to the new context.

The advantages of these digital media in relation to the new pedagogical paradigms are the support they give to the teacher to perform their functions as a leader and facilitator of learning, such as the orientation, development and control of the teaching-learning process.

ICT, according to Armas and Alonso, facilitated the exchange of learning materials, participation in virtual classrooms and mutual social contact among community members. ICT also removes barriers between teachers and students, fosters interest, teaches more flexibly and promotes student interaction, communication and collaboration. ICTs promote the creation of collaborative and self-learning spaces, allow the adaptation and management of the diversity of communities, and promote the participation of all in the learning process. From there we can affirm that the administrative area of the institutions have been of great help for the realization of virtual learning, facilitating the management and administration of communication tools

between students, including in turn people with disabilities, facilitating communication and, given the current situation, accompanying students in general with everything necessary during confinement, since it was taken into consideration that teachers and administrative staff were the ones who provided the greatest possible assistance during this period of confinement.(2021)

The integration of ICT in teaching allows students to become active and constructive participants in their learning and teachers to assume the role of guides and facilitators, changing the way they involve students, the way in which the learning that surrounds them is planned and designed, for this is that a correct management and training by the administrative area is vital for others branches of the institution can function normally. For Pinos et al., (2020) these technological tools allow teachers to explore new technologies to motivate students and enhance their learning through the use of multimedia, hypertext and other interactive systems, and select learning resources that are appropriate for different student experiences. Students, like teachers, must have the possibility of choosing between practical technical tools which must be offered or at least administered by the institutions themselves, this being an educational decision to achieve the educational objectives in the teaching and learning of students, being thus that a correct administration allows the teacher to develop without problems which in turn prepares the student to solve the problems that arise in their academic life, so the administration executed and administered interesting (didactic) and demanding programs for students of various levels, such as Canvas (for presentations), FIGMA (application modeling), among others as required in the various careers.

Thus, taking into account what was mentioned by Lovón and Cisneros,(2020) it is stated that teachers increasingly carry out activities that require technological tools, such as electronic tutoring, which allow specialized monitoring of student performance and learning. There are also teachers who use the internet for communities of practice that allow the exchange of experiences, interaction with peers and the control of shared decisions, and that for the first time in computer networks students face the challenge of learning in synchronous studies anywhere in the world, while connected to the network. Without forgetting that teachers through the tools provided, administer and manage institutions provide critical support for the self-preparation, training and improvement of students.

The variety of tools that are of the ICT type are diverse and each one offers different methods of application becoming quite versatile.

Digital tools managed by universities during the pandemic

According to Sánchez, the (2020) digital tools used during the pandemic, which are administered by higher education institutions, can be divided into two categories: synchronous and asynchronous, which were administered by universities:

Asynchronous Digital Tools: We must remember that in the asynchronous is where students create knowledge by analyzing the ideas of the teacher, we can say that learning in a virtual environment is created by the creativity of the student because it has freedom that allows learning to create, which allows students to control their learning environment, since the student himself, In the asynchronous stage, plan and create independent activities where the teacher guides the students and

monitors their participation at every moment of the day.

Morales (2020) mentions that Google Classroom (GC) was one of the largest platforms that was used during the pandemic period, emphasizing that this platform, which was created in 2014, was chosen because it allows sharing information about the teacher, is easy to use and intuitive for the student. Just by having a Gmail user you have access to all Google applications, it is free and the benefits are many, for many students it was the first time they worked with this versatile education platform, so there was no other way to explain it to teachers other than through training, through tutorials on how to manage them and how to send their assignments to students and also how to grade them. In addition, thanks to the intuitive GC symbols, they helped clarify whether it was a material or a task.

Morales also mentions the forums, these could be used in almost any social network and learning platform (such as GC) allowing to comment on doubts publicly and individually about the assignments given to students. These forums were managed by the administrative area of each institution, to mediate the content that could exist.

Synchronous digital tools: Since students need to solve their doubts it is through synchronous tools that can communicate with the teacher in real time being able to solve their doubts, among the main synchronous tools used by the various universities were Zoom and Meet.

Zoom: Among its advantages, mentioned by Saal and Rodriguez, (2021)is that the teacher has more control in the school by controlling the chat, sending private or general messages, allowing on-screen communication and easy video projection. According to Muñoz, students can be recorded without interrupting

the meeting, they already have an extension installed that allows students to raise their hands and vote on the topic. And in advanced math, it allows you to create groups in real time to facilitate collaboration. And among other advantages, mentioned by (2022) Sánchez and Fortoul, (2021) it has digital maps, which is quite useful for making graphic explanations or examples that require a blackboard. The meeting password can be set and some security support is provided so that all participants are visible. But it has some disadvantages that limit performing different activities, because if you do not have a company account that requires an institutional framework, then the meeting will last an hour and 40 minutes, this was corrected by the various institutions since the state provided the necessary funds for the institutions to manage the classrooms and can be as long as needed.

Google meet: According to Gamarra et al., (2021) it has the same advantages of Zoom without the disadvantage of time restriction even without a business account, so this was one of the tools most used by students to make group assignments, in case they needed to "meet".

Jamboard: Just as Zoom has its whiteboard tool, Alanya et al. (2021) mentions that Meet also has a free add-on called Jamboard which allows you to show and edit a virtual whiteboard for teachers' explanations, since it is always necessary a more graphic and manipulable help such as a whiteboard to detail procedures or explanations, and since it is part of the Google package that students can also participate fluently without the need to resort to external applications.

It is important to note that virtuality in its management of ICTs also considered the use of social networking sites such as WhatsApp and

Facebook serving as digital tools that although they are not managed directly by the institutions, they help facilitate learning, this mentioned by Inga and Aguirre(2021). According to Gutiérrez and Díaz, the use of (2021) social networks in education has been previously ruled out for traditional education, but their potential and ease of manipulation allow them to be valued as a key digital tool for the implementation of virtuality in learning communities, thanks to the fact that many students only having a cell phone as a means to surf the internet were benefited in this way by this given that Both digital applications are of unlimited use in terms of messaging and image transmission.

Quality management and its relevance in university management

Quality management, in order to understand the quality management builder, it is necessary to be able to define two important points, initially, the perspective of quality management, according to Amaya et. Al. (2020) Quality management on the other hand allows to establish, integrate and motivate, thus allowing to generate satisfaction, so that at present it ceases to be a priority, becoming something primordial and indispensable, which will allow to differentiate itself from others. On the other hand, Chacon and Rugel, (2018) infers that for good quality management meets the requirements mentioned in ISO 9001: 2015, also, the standards and requirements it has, will allow to meet the standards that the client may need, therefore, it will be a continuous improvement. Similarly, Majo et al. adds that educational quality management (2022) takes into account 5 dimensions of equal equity, relevance, relevance, efficiency and effectiveness; therefore, the authors mention that quality management of education will be based on the ability of students to develop their

skills and abilities; this in Peru is endorsed by the General Education Law, issued by the Congress of the Republic, in which its 13th article points out how achievement indicators serve to measure educational quality. For his part, (2003)Bautista(2022) mentions that quality management recognizes that in quality there must be the effectiveness of teaching and the efficiency of learning, resulting in students prepared to take on new challenges and opportunities, for this it has indicators which measure the standards of efficiency and effectiveness in the educational institution, In this way it provides confidence and security thanks to the fact that quality management works in conjunction with strategic management allowing students throughout their academic process to develop to achieve the results (goals) they want.

University management, according to Cruzado et al. , (2022)mentions that different universities tend to undergo different changes over time, which will allow them to thrive and survive the new changes that may be generated, from this it will allow them to manage strategically, achieving their adaptation to these new challenges, allowing them to differentiate themselves from others. Therefore, university management, when trained in constant changes, anticipates new decisions leading to a prosperous change in the new adaptation which will allow to have a relevance in quality management. On the part of Kochen(2020) mentions that university management can be defined as a technical-political act that means that the institution has a set of means and a clear political intention to achieve the desired social change and not just a bureaucratic act in this way through creative actions to seek solutions to problems that may arise.

Conclusions

An educational institution in its various branches presents various complications when it does not have the correct administration, on the other hand when academic management is carried out efficiently is that problems can be solved satisfactorily for those involved, as was the context of the COVID-19 pandemic where teachers had to adapt to virtuality and through training, they were able to handle the digital tools provided by the administrative area. Thus, in this article it is concluded that regardless of the problem to be dealt with, as long as the management is efficient and knows how to cope with the situation, a solution can be found. Therefore, although in the beginnings of virtuality there were problems for adaptation when it was already possible to establish and solve the problems as they appeared, virtual education in the pandemic was able to cope satisfactorily for students and teachers.

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