Interpersonal vs. asynchronous communication: a study of the organizational communication effects of online education

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Abstract: The burgeoning digital cyberspace and the current state of the epidemic home have made online education the main means of knowledge acquisition for the student population. However, the issue of the effectiveness of online education has become a major concern for the general public at the moment. This paper will answer questions about the relationship between the learning mode of online education and knowledge transmission during the epidemic from the theoretical perspective of media environment studies, combined with the effectiveness theory of organizational communication, and further explore how the online education mode has an impact on the state of learning.
Keywords: interpersonal communication, communication effectiveness, online education, organizational communication

1 Introduction

Recent years, the Newcastle pneumonia epidemic has continued to spread and the country has responded to the national policy of precise prevention and control of the epidemic by reducing outings and gatherings. At the same time, schools and educational institutions around the country are focusing on online education. The development of online education has gradually improved and has become an important means of learning today. In this context, new forms of online education are beginning to emerge. At the same time, however, we have observed that the new model of online education is less efficient than face-to-face teaching. In this regard, we question whether online education affects the effectiveness of knowledge transmission and whether it creates a disconnection between learning and living conditions.

2 Literature review

2.1 Literature review of the online education phenomenon during the epidemic

The outbreak of the Newcastle Pneumonia epidemic has made online education a major mode of teaching and learning, while online educatio has led to multi-perspective research in national and international academia. Foreign scholars Geng Jichao. Xun Shoukui. Yang Jian.

Yang Na A general analysis of the factors affecting students in online education from a teaching-learning perspective is presented in the journal Sustainability 2022, which identifies the short- and long-term relationships between emergency distance education and undergraduate academic performance. Foreign scholars Atout Maha. Alrimawi Intima. Mohammed Ali Amira. Dreidi Mutaz. Abu Khader Imad. Jaghama Maram A holistic analysis of the challenges of online education and a sample of nurse educators and students in the journal Nursing forum, 2022.

The article "What is the real problem of online education research - the "Socratic trap" and its transcendence" published by domestic scholar Guo Wenge in the journal Educational Research in 2022 The article "What is the real problem of online education research - the Socratic trap and its transcendence" was based on the overall vision of technology influencing educational change and the future development of education, and carried out theoretical innovation research on the paradigm and research methods of educational science research. Based on the policy of "suspending classes without stopping school" under the severe situation of the epidemic, Huang Ronghuai, Wang Yan, Wang Huanhuan, Lu Xing and Gao Bojun published a paper on "The new form of teaching in future education: flexible teaching and active learning" in the journal Modern Distance Education Research in 2020. In the paper "The New Form of Teaching and Learning in the Future: Flexible Teaching and Active Learning" published in the journal Modern Distance Education Research in 2020, they discussed that with the deep integration of online and offline education, flexible teaching and learning based on flexible teaching time and space and multiple teaching methods, as well as active learning for personalized training will become the new "normal" of education in the future.

Although many scholars, both nationally and internationally, have addressed the pedagogical models and methods as well as the challenges facing online education, the impact of the online media environment on the dissemination of information in the field of online education has been neglected. The focus on how the media environment has changed the dissemination of knowledge and the factors that influence its effectiveness are important themes in this thesis.

2.2 Literature review of media environmentalism theory

After the theory of media ecology was proposed by Neil Bozeman, it has received a lot of attention from scholars at home and abroad, and also achieved more research results. 2022 Explorations in Media Ecology published 'Teaching media ecology in-person and online: Lessons from a COVID-19 semester' (Teaching media ecology in-person and online: Lessons from a COVID-19 semester) summarised the lessons learned from online education during the epidemic and elaborated on media ecology theory. Domestic scholar Zhang Lingxiao, in his paper "Paradigm Inheritance and Theoretical Transcendence of Media Ecology under the Media Revolution" in 2022, on the other hand, combined the actual phenomenon of new media communication in China under the Internet era with media ecology theory and proposed the development process of the media revolution in the current era. In the article "5G Technology Features, Communication Scenarios and Media Environmentalism Review" published in 2020, domestic scholars Xu Gabiao and Li Huan combined the widespread application of 5G technology with media environmentalism theory in China and proposed that from the perspective of media

environmentalism, 5G technology reconstructs the media ecology of the large social system and becomes a metaphor and representation of the times in the form of technological empowerment.

However, these studies do not examine the impact of online education models on learning effectiveness from a media environment perspective, and therefore do not answer the question of whether online education has an impact on knowledge transmission and whether online education has a state of fragmentation between learning and life, leading to a reduction in learning effectiveness. In this article, the field of online education will be discussed in detail from a media environment perspective.

2.3 Literature review of research on organisational communication and its effectiveness

The study of organizational communication and its communication effects has been interpreted by domestic and foreign scholars from different perspectives. Foreign scholars Gibson Ben;Hoffman Blaine;Fleur Claire-GenevieveLa;Buchler Norbou published in Social Networks in 2021, "Endogeneity and permeation in an Endogeneity and permeation in an organizational communication network" in Social Networks in 2021, based on the field of organizational communication, extends organizational communication theory by exploring the phenomenon of Internet communication, further exploring the endogeneity and permeation of organizational communication, comparing it with face-to-face conversations, and observing the continuation of social dynamics to new forms,there are practical differences between the two types of communication. In contrast, domestic scholars Jing Ming and Wang Mengxue, in their 2021 paper 'Organisational Communication Social Mobilisation - On the Communication Mode, Discourse System and Social Governance Function of Slogans in the Fight against the New Coronary Pneumonia Epidemic', propose the particular phenomenon of slogans in the fight against the New Coronary Pneumonia epidemic in China through a link with organisational communication theory, suggesting that the communication mode and discourse system have a The special role of the communication system on the function of social governance. In addition, Liu Guo, a domestic scholar, in his paper "Research on the Innovation and Development of Internal Reference in the Perspective of Organizational Communication" in 2020, combined the unique phenomenon of "internal reference" in China with organizational communication theory, and proposed that the structural innovation of internal reference should follow the principle of timeliness and effectiveness, and further highlight and strengthen the role of "internal reference editorial and selection agencies". The role of the "insider publication" is further highlighted and strengthened.

In summary, domestic and international scholars have not provided answers to the phenomenon of online education models affecting the efficiency of learning from the field of organisational communication, and there is also no discussion on whether the phenomenon has a relevant impact on the effectiveness of knowledge transmission and the fragmentation of learning states, so this article will be devoted to further research on the organisational communication model of online education during the epidemic.

2.4 Issues raised about online education in the context of the epidemic

This paper will therefore answer questions about the relationship between online education learning models and knowledge transmission during the epidemic and the related effects of online education models on learning states from a theoretical perspective of media contextualisation in relation to the effects of organisational communication. This includes questions about the effects of knowledge dissemination and the factors and effects that contribute to the fragmentation of learning and life states. Further relevant research in the field of online education and related areas such as information dissemination in mediated environments is developed.

3.Research Methodology

3.1 In-depth interview method

The interview questions were divided into three main parts. In the first part, the basic information of the interviewees, including their names, ages and majors of the institutions, was mainly covered. In the second part, the research questions were downscaled into interview questions. These included perceptions of the impact of online education on learning outcomes, specific questions about the protection of personal privacy and research on learning-oriented online communities, and perspectives on the future development of online education. In the third part, the preparation mainly deals with possible deeper questions.

During the interviews and the conduct of the study, the researcher tried to avoid the four ethical issues and transgressions highlighted by scholar Al- an Bryman: (1) causing harm to the research participant; (2) not using informed consent documents or materials; (3) invading the privacy of the research participant; and (4) deceiving the research participant. The interviewees were also allowed to remain silent or withdraw from the interview if they had any questions they did not wish to answer or if they were dissatisfied. Interview materials that the interviewees declared they did not wish to disclose were not included or quoted in this study. The interview outline was developed from the following four perspectives:

First, the learning outcomes perspective:

1. Which online education platforms have you used to take courses during the epidemic?

What are the differences between the different online education platforms and how do you specifically feel about them?

2. How helpful do you think online learning is in helping you to master the theoretical knowledge of the course?

3. How do you think the online learning mode compares to public classroom learning in terms of concentration?

4. How effective are you in presenting your group work with others during online classes?

5. Which model is more active in your learning than the offline teaching model?

6. How do you feel about the effectiveness of using the "online link" format to answer classroom questions?

What questions have come up? What are the differences compared to traditional questioning in the offline teaching model?

7. Do you think that the 'online check-in' feature is a true reflection of the number of students attending classes during online access?

What do you think might be the reason for the discrepancy between the number of people signing in online and the actual number of people attending the course?

Secondly, from a personal privacy perspective:

8. Have you been asked to turn on your webcam during online classes? Would you like to turn on your webcam?

Do you feel that the request to turn on the webcam and microphone during an online online class violates your privacy?

Have you used virtual backgrounds during your online classes?

What do you think are the reasons for using virtual backgrounds?

10. How do you think the use of online education models during the epidemic has changed your state of learning and your life? What do you think caused the changes to happen?

Thirdly, the future development perspective of online education.

11. What do you think you need to do to improve the efficiency of your learning in the online learning mode?

What are your best practices and suggestions?

12. What do you think can be done to avoid invasion of privacy in the online learning mode?

13. What do you think can be done to effectively differentiate between personal learning and life situations in the online learning mode?

14. How do you think the online and offline modes of learning can be better developed in the future?

Fourth, the network organisation or learning community perspective:

15. During the epidemic, online classes have become an essential learning channel. What are the unique advantages of a learning community formed by relying on online channels?

16. What do you think should be done with online classes to continue to play a role in knowledge dissemination as the epidemic gradually opens up and offline classes return to normal, and what are your methods and suggestions?

17. There are many ways to learn online, apart from the online class platforms offered by schools, there are also many online learning institutions (e.g. New Oriental Online Classes, etc.) and online education platforms (e.g. B-site), what do you think is the trend of online learning in the future? What new changes and adjustments do online learning institutions and online education platforms need to make in the future, and what are your thoughts and suggestions?

This study conducted 10-20 minute semi-structured in-depth interviews with each of the 15 interviewers from the student population at different institutions. The interviews began on 18 January 2023 and ended on 29 January 2023. The interviewees consisted mainly of groups of current university students from different institutions with different majors. According to the maximum sampling principle of the qualitative research methodology, by the time the 15th interviewee was recruited, all the interviews were sufficient to answer the research questions and the sample collection was closed. The interviewees differed in age, institution, major, and region of residence, with a low degree of homogeneity. The interviews were conducted in the form of WeChat text interviews and WeChat voice interviews. The results of the interviews were collated

into verbatim transcripts, with a total of 23,554 words in the interview transcripts.

4.Research findings and discussion points

4.1 Overall downward trend in learning effectiveness and concentration

4.1.1 Differences in the functions of online education platforms affect learning outcomes

According to the results of the in-depth interviews, there are significant differences in the functions of the major online education platforms involved. If we divide them by subject category, there are dedicated online education platforms for different subjects; if we divide them by lecture format, we can mainly divide them into two forms: live and recorded; and according to the functional attributes of each education platform, they can be divided into two types: mainly conference discussions and in-depth lectures.

Due to the different learning scenarios of online education, respondents need to find the right online education platform according to their needs. However, the differences in subject matter, delivery format and platform features between the various online education platforms often lead to instability, poor interactivity and inappropriate use of a particular platform, which indirectly affects the change in learning outcomes.

4.1.2 Real and virtual: learning concentration changes due to changes in the external environment

This in-depth interview was conducted to investigate whether the two modes of online and offline classes had an impact on respondents' concentration in learning. Of the respondents, 80% said that the online mode of e-learning had a significantly lower impact on students' concentration compared to offline classroom learning. The main reasons for this were that the online learning mode does not have the same "classroom atmosphere" as the offline mode, that it is "easily influenced by other factors" and that it is "easily distracted by the lack of teacher supervision". Compared to the offline mode, the online mode relies on an online environment. The process of "teaching and learning" requires the dissemination of knowledge and information in a virtual space. However, at the same time, the effective absorption of knowledge is also influenced by other factors, such as concentration, which are difficult to capture in asynchronous communication based on information network technology. As a result, the learning concentration of student groups is influenced by the environment in which knowledge is disseminated, as the transition between real and virtual space takes place.

4.1.3 Internet and reality: communication media influence learning effectiveness

Both modes of delivery trace their roots to knowledge transfer and efficient learning. Based on research from in-depth survey interviews, we found that the effectiveness of knowledge absorption

and the initiative to learn varies from person to person. The face-to-face offline mode of delivery, as opposed to the online education platform, facilitates the effective transmission and absorption of knowledge. Online education platforms are different from offline delivery mechanisms in that they rely on the online network and provide a large amount of professional learning materials, rather than just being a classroom. In the in-depth survey, 40% of respondents said that "collaborating with others online" was less effective. At the same time, 60% of the respondents said that the use of "online networking" was not very effective. The main reasons for this were the instability of the online education platform and other subjective factors.

The biggest difference between the online and offline modes of education is the change in the medium of communication. In the offline mode, the subjects of teaching and learning are in the same space, and the interaction between teachers and students is highly synchronised. However, the online education model, although it reverts to a greater extent to the scenarios and functions of offline classes, still relies on the communication medium of online information technology. As the medium of online education, the stability of network information technology directly affects the effect of knowledge dissemination and the efficiency of learning. As far as the receiving end of knowledge is concerned, students, as users of data-based existence, can receive information and knowledge relatively quickly, but the symbolic presentation and often makes it difficult for teachers to truly understand the situation of student learning. As a result, this does not provide a quick overview of the state of student learning and its effectiveness. In other words, organisational communication in e-learning is not as effective as it would be in offline simultaneous space education.

It is worth noting that the results of the survey show that the distribution of learning initiative between online and offline classes is about the same. This shows that knowledge dissemination and learning effectiveness are influenced by changes in the medium of communication, but that learning initiative, as a subjective personal factor, has relatively little influence on the presentation of the effectiveness of online and offline classes.

4.1.4 The shift from social teaching to home tuition and the subsequent reduction in learning efficiency

During the transition from public social teaching scenarios to private home tuition scenarios, students' mental states change to a certain extent. After in-depth interviews, respondents in the private teaching scenario of online education indicated that when studying with the camera on for long periods of time and being monitored in real time, everyone's mental state can face great stress. The psychological pressure also reduces learning efficiency, resulting in problems such as poor concentration and psychological stress. In addition to this, the apparent laxity of the learning state also becomes a major problem for online classes. The boundaries between the study state and the living environment are broken, thus leading to the phenomenon of reduced study efficiency intermingling with the living state.

4.2 The knowledge dissemination role of online communities

4.2.1 Resource sharing and remote exchange of questions and answers as a new way of learning

Online communities based on learning and resource sharing have become an important way and means of disseminating knowledge through online education. In this interview, respondents indicated that the establishment of learning communities allows for a more free and open learning environment. People are able to receive learning resources from various sources and expand their knowledge without geographical or time constraints. At the same time, the communication and interaction in learning communities is more conducive to meeting like-minded learning partners and monitoring each other. The peer pressure in online knowledge communities makes students perceive the group pressure of the knowledge community and thus stimulates their self-drive. In short, the combination of external supervision and self-drive ensures that students' learning is effective and focused at a distance online.

4.2.2 Improving the online teaching model and giving new impetus to knowledge dissemination

Following the characteristics of online education and giving full play to the advantages of digital technology can drive deep changes in the way teaching and learning takes place. In an open and shared digital network space, students as cybernetic information nodes need more accurate information and more personalised knowledge. For the online education side, the consumer side can effectively meet the personalised knowledge needs of students by pushing back the production side. Breaking down the inherent boundaries of the classroom lecture system and introducing technologies such as remote collaboration and knowledge collaboration can support practical innovations such as cross-class teacher sharing, cross-school elective courses and cross-regional collaborative teaching, continuing to bring new dynamics to knowledge dissemination.

As a result, the design of personalised learning activities, the flexibility of course topics and the expansion of interdisciplinary learning are actions that can continue to improve the effectiveness of online education. The innovative development of online education can create a new form of education that is different from traditional classroom lectures and will provide more options for student growth.

4.3 Online education trends and multiple challenges

Today, knowledge is being disseminated and learned in a variety of ways. According to the results of in-depth interviews, 73% of respondents said that in the future education environment, the combination of online and offline modes is more suitable for future education and teaching, and "offline lectures, online support" has become a new trend. Offline public classroom lectures are more conducive to the effective dissemination of knowledge, learning efficiency and concentration; live and recorded online classes are more conducive to the repeated understanding and absorption of knowledge. At the same time, online classes can be used as an extension of the offline public classroom, with a richer and more diverse pool of professional knowledge and materials available in the online information medium, facilitating students' in-depth learning.

At the same time, education and teaching need to break through to innovation. According to in-depth interviews and surveys, a scientific and reasonable study plan, a detailed arrangement of study and rest time allocation, and a clear boundary between study and rest can significantly improve learning efficiency in the online education mode. At the same time, the awareness of independent learning will become an important criterion for judging the effectiveness of learning under the online education mode. In addition to this, the online education model also places new demands on education and teaching. Teachers need to adapt their teaching mode to the online class format and actively use the advantages of online classes so that students can quickly adapt to online classes, while students need to mobilise their own internal drive and focus on their own learning and development.

It is worth mentioning that the protection of personal privacy in online education classes needs to be improved. The intersection of the real world and the online environment makes it difficult to protect personal privacy. In this in-depth interview survey, 46% of respondents explicitly stated that they did not want to turn on the webcam during online classes, and 34% said that turning on the webcam violated their privacy to some extent. At the same time, 60% of respondents indicated that they had used virtual backgrounds, with the main reasons focusing on the messy background of their private space and the need to protect their own and others' privacy. The shift from the traditional offline public classroom model to a home based personal online learning model is a dramatic shift from public space to private space. With the internet as the medium of communication, personal privacy space is to a certain extent affected by the constant impact and influence of online education platforms due to the need for knowledge dissemination and teaching.

Splitting the learning space helps to protect privacy. In the online education model, the online online class period makes the learning space separate from the space of daily life, and learning in a specific area is more conducive to learning concentration. Students should take into account the online education model, the uncertainty of time and space, and make reasonable study plans and even effectively divide the study space so that the two can be combined and, to a certain extent, the absorption of online classes can be maximised. Not only that, but splitting the learning space from the personal privacy space can maximise personal privacy security and avoid privacy leaks caused by various uncertainties in the online education platform.

5 Summary and Reflection

The model of online education needs to be further enhanced with the use of the medium's features to increase the impact of online education platforms. As the epidemic improves, many schools have gradually moved to offline classroom delivery, and this does not mean that online education is disappearing. On the contrary, online education can be used as an opportunity to make a difference. Combined with offline teaching, teachers can still use online teaching platforms to upload coursework, assign homework, record online lessons for students to review and expand their knowledge outside the classroom; learning communities can maximise the functions of online education platforms by sharing uploaded materials, answering each other's questions and learning from each other, broadening new models beyond traditional teaching.

Under the online education model, the learning space and living environment are re-divided and personal privacy protection policies need to be further improved. Under the online education model, due to the need for knowledge dissemination and teaching, personal privacy space is to a certain extent subject to the constant impact and influence of online education platforms. Therefore, in the online education environment, how to properly handle the separation of personal privacy life and learning state, to ensure that personal privacy is not infringed becomes an important element. The separation of the learning space from the living environment can maximise the functionality of the learning space and improve students' learning efficiency and concentration. At the same time, the separation of space allows students to achieve a balanced psychological state.

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