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Interpersonal vs. asynchronous communication: a study of the organizational communication ef- fects of online education (Postprint)

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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.

Full Text

Interpersonal and Asynchronous Communication: A Study on the Organizational Communication Effects of Online Ed- ucation

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Abstract: The burgeoning digital cyberspace and epidemic-induced home con-
finement have made online education the primary means of knowledge acqui-
sition for students. However, concerns about the effectiveness of online education
have become paramount. This paper examines the relationship between on-
line education learning modes and knowledge transmission during the pandemic
through the theoretical lens of media ecology and organizational communication

effectiveness theory. It further explores how online education models impact learning states.

Keywords: effectiveness, online communication, interpersonal communication in education, organizational communication

1 Introduction

In recent years, the COVID-19 pandemic has continued to spread. In response, the country has implemented national policies of precise prevention and control, reducing outings and gatherings. Concurrently, schools and educational institutions nationwide have shifted their focus to online education. Online education has gradually developed and become a crucial means of learning today. In this context, new forms of online education have begun to emerge. However, we have observed that these new online education models are less efficient than face-to-face teaching. Therefore, we question whether online education affects the effectiveness of knowledge transmission and creates a disconnection between learning and living conditions.

2.1 Literature Review of the Online Education Phenomenon During the Epidemic

The COVID-19 pandemic outbreak has made online education a primary mode of teaching and learning, prompting multi-perspective research in both domestic and international academia. Foreign scholars Geng Jichao, Xun Shoukui, Yang Jian, and Yang Na present a general analysis of factors affecting students in online education from a teaching-learning perspective in the journal *Sustainability* (2022), identifying 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, and Jaghama Maram provide a holistic analysis of the challenges of online education among nurse educators and students in the journal *Nursing Forum* (2022).

Domestic scholar Guo Wenge published the article “What is the Real Problem of Online Education Research—The ‘Socratic Trap’ and Its Transcendence” in *Educational Research* (2022). Based on the overall vision of technology influencing educational change and future educational development, this work carries out theoretical innovation research on the paradigm and research methods of educational science research. Building on the “suspending classes without stopping school” policy under the severe epidemic situation, Huang Ronghuai, Wang Yan, Wang Huanhuan, Lu Xing, and Gao Bojun published “The New Form of Teaching and Learning in the Future of Education: Flexible Teaching and Active Learning” in *Modern Distance Education Research* (2020). They discuss how, with the deep integration of online and offline education, flexible teaching and learning based on flexible time-space arrangements and multiple teaching methods, as well as active learning for personalized training, will become the

new “normal” in future education.

Although many scholars, both domestically and internationally, have addressed pedagogical models, methods, and challenges facing online education, the impact of the online media environment on information dissemination in the field of online education has been neglected. This thesis focuses on how the media environment has changed knowledge dissemination and the factors influencing its effectiveness.

2.2 Literature Review of Media Environmentalism Theory

Since Neil Postman proposed media ecology theory, it has received considerable attention from scholars at home and abroad, yielding numerous research results. In 2022, *Explorations in Media Ecology* published “Teaching Media Ecology In-Person and Online: Lessons from a COVID-19 Semester,” which summarized lessons learned from online education during the pandemic and elaborated on media ecology theory. Domestic scholar Zhang Lingxiao, in the 2022 paper “Paradigm Inheritance and Theoretical Transcendence of Media Environmentalism Under the Media Revolution,” combined the actual phenomenon of new media communication in China’s Internet era with media ecology theory and proposed a developmental process for the media revolution in the current era. In their 2020 article “5G Technology Features, Communication Scenarios and Media Environmentalism Review,” domestic scholars Xu Gabiao and Li Huan combined the widespread application of 5G technology in China with media environmentalism theory, proposing that from a media environmentalism perspective, 5G technology reconstructs the media ecology of the broader social system and becomes a metaphor and representation of the times through technological empowerment.

However, these studies do not examine the impact of online education models on learning effectiveness from a media environment perspective. Therefore, they fail to answer whether online education affects knowledge transmission and whether it creates a state of fragmentation between learning and life that reduces learning effectiveness. This article will discuss the field of online education in detail from a media environment perspective.

2.3 Literature Review of Research on Organizational Communication and Its Effectiveness

Domestic and foreign scholars have interpreted organizational communication and its effects from various perspectives. Foreign scholars Gibson Ben, Hoffman Blaine, Fleur Claire-Genevieve La, and Buchler Norbou published “Endogeneity and Permeation in an Organizational Communication Network” in *Social Networks* (2021). Based on the field of organizational communication, this work extends organizational communication theory by exploring Internet communication phenomena, examining the endogeneity and permeation of organizational communication, comparing it with face-to-face conversations, and observing the

continuation of social dynamics to new forms, revealing practical differences between the two communication types.

In contrast, domestic scholars Jing Ming and Wang Mengxue, in their 2021 paper “Organizational Communication and Social Mobilization: On the Communication Mode, Discourse System and Social Governance Function of Slogans in the Fight Against the COVID-19 Epidemic,” examine the particular phenomenon of slogans in China’s fight against the pandemic through the lens of organizational communication theory, suggesting that communication modes and discourse systems play a special role in social governance functions. Additionally, domestic scholar Liu Guo, in the 2020 paper “Research on the Innovation and Development of Internal Reference from the Perspective of Organizational Communication,” combined the unique Chinese phenomenon of “internal reference” with organizational communication theory, proposing that structural innovation of internal reference should follow principles of timeliness and effectiveness to further highlight and strengthen the role of “internal reference editorial and selection agencies.”

In summary, domestic and international scholars have not addressed how online education models affect learning efficiency from the perspective of organizational communication. There is also no discussion of whether this phenomenon impacts knowledge transmission effectiveness and learning state fragmentation. Therefore, this article will devote further research to the organizational communication model of online education during the pandemic.

2.4 Issues Raised About Online Education in the Context of the Epidemic

This paper therefore addresses questions about the relationship between online education learning models and knowledge transmission during the pandemic, as well as the effects of online education models on learning states, from theoretical perspectives of media ecology and organizational communication effectiveness. This includes questions about knowledge dissemination effects and the factors contributing to fragmentation between learning and life states. Further research is developed in online education and related areas such as information dissemination in mediated environments.

3 Research Methodology

3.1 In-Depth Interview Method

The interview questions were divided into three main parts. The first part covered basic interviewee information, including names, ages, and institutional majors. The second part translated research questions into interview questions, encompassing perceptions of online education’s impact on learning outcomes, specific questions about personal privacy protection and learning-oriented online communities, and perspectives on the future development of online education. The third part prepared for possible deeper follow-up questions.

During interviews and study conduct, the researcher avoided the four ethical issues highlighted by scholar Alan Bryman: (1) causing harm to participants; (2) failing to use informed consent documents; (3) invading participant privacy; and (4) deceiving participants. Interviewees could remain silent or withdraw if they encountered undesirable questions or felt dissatisfied. Materials interviewees declined to disclose were excluded from this study. The interview outline was developed from four perspectives:

First, the learning outcomes perspective:

1. Which online education platforms have you used for courses during the epidemic? What are the differences between platforms, and how do you specifically feel about them?
2. How helpful is online learning for mastering course theoretical knowledge?
3. How does the online learning mode compare to public classroom learning in terms of concentration?
4. Which model makes your learning more active than the offline teaching model?
5. How effective is the “online link” format for answering classroom questions? What issues have emerged? How does this differ from traditional questioning in offline teaching?
6. Does the “online check-in” feature truly reflect student attendance during online classes? What might cause discrepancies between online sign-ins and actual attendance?

Second, from a personal privacy perspective:

8. Have you been asked to turn on your webcam during online classes? Would you like to? Does this request violate your privacy? Have you used virtual backgrounds? What are your reasons for using them?
9. How has the online education model during the epidemic changed your learning state and life? What caused these changes?

Third, the future development perspective of online education:

11. What can improve learning efficiency in online mode? What are your best practices and suggestions?
12. How can privacy invasion be avoided in online learning?
13. How can personal learning and life situations be effectively differentiated in online learning mode?
14. How can online and offline learning modes be better developed in the future?

Fourth, the network organization or learning community perspective:

15. During the epidemic, online classes became essential learning channels. What are the unique advantages of learning communities formed through online channels?
16. As the epidemic subsides and offline classes return, how can online classes continue facilitating knowledge dissemination? What are your methods and suggestions?
17. Beyond school platforms, many online learning institutions (e.g., New Oriental Online) and platforms (e.g., Bilibili) exist. What is the future trend of online learning? What changes and adjustments do these institutions need to make?

This study conducted 10-20 minute semi-structured in-depth interviews with each of 15 interviewees from diverse student populations. Interviews ran from January 18 to January 29, 2023. Interviewees comprised current university students from different institutions and majors. Following qualitative research's maximum variation sampling principle, by the 15th interview, data saturation was reached and sampling concluded. Interviewees varied in age, institution, major, and region of residence, ensuring low homogeneity. Interviews used WeChat text and voice formats, producing verbatim transcripts totaling 23,554 words.

4 Research Findings and Discussion

4.1.1 Differences in Platform Functions Affect Learning Outcomes

Interview results reveal significant functional differences among major online education platforms. By subject category, there are dedicated platforms for different disciplines. By lecture format, they divide mainly into live and recorded forms. By functional attributes, they split into conference discussion types and in-depth lecture types. Due to varied online education scenarios, respondents must select appropriate platforms. However, differences in subject matter, delivery format, and platform features often cause instability, poor interactivity, and inappropriate platform use, indirectly affecting learning outcomes.

4.1.2 Real and Virtual: Concentration Changes from Environmental Shifts

This investigation examined whether online and offline modes affect learning concentration. Eighty percent of respondents reported that online e-learning significantly reduces concentration compared to offline classroom learning. Primary reasons include lack of “classroom atmosphere,” susceptibility to external influences, and easy distraction without teacher supervision. Unlike offline modes, online learning relies on virtual environments where the “teaching and learning” process requires knowledge dissemination in virtual space. However, effective knowledge absorption is also influenced by factors like concentration that are difficult to capture in asynchronous, information network-based communication. Consequently, student concentration is affected by the shift between

real and virtual learning environments.

4.1.3 Internet and Reality: Communication Media Influence Learning Effectiveness

Both delivery modes aim for knowledge transfer and efficient learning. Our in-depth interviews found that knowledge absorption effectiveness and learning initiative vary individually. Face-to-face offline delivery facilitates more effective knowledge transmission and absorption compared to online platforms. Online education platforms differ from offline mechanisms by relying on networks to provide extensive professional learning materials beyond traditional classrooms. In our survey, 40% of respondents said “collaborating with others online” was less effective, while 60% found “online networking” ineffective, citing platform instability and subjective factors.

The key difference between online and offline education lies in the communication medium. Offline modes place teaching subjects in the same space with highly synchronized teacher-student interaction. While online education replicates offline scenarios to a greater extent, it still depends on online information technology as its communication medium. Network information technology stability directly affects knowledge dissemination and learning efficiency. As knowledge receivers, students exist as data-based users who can quickly receive information, but symbolic presentation often makes it difficult for teachers to truly understand student learning situations. This prevents quick assessment of student learning states and effectiveness. In other words, organizational communication in e-learning is less effective than offline simultaneous space education. Notably, survey results show similar learning initiative distribution between online and offline classes, indicating that while knowledge dissemination and learning effectiveness are influenced by communication medium changes, learning initiative—as a subjective personal factor—has relatively little influence on the relative effectiveness of online versus offline classes.

4.1.4 Shift from Social Teaching to Home Tuition Reduces Learning Efficiency

Transitioning from public social teaching to private home tuition scenarios changes students’ mental states. Interviewees in online education’s private teaching scenario indicated that prolonged camera use and real-time monitoring create significant psychological stress for everyone. This pressure reduces learning efficiency, causing poor concentration and psychological strain. Additionally, apparent laxity in learning state becomes a major online class problem. The boundaries between study and living environments become blurred, leading to reduced study efficiency that intermingles with the living state.

4.2.1 Resource Sharing and Remote Q&A as New Learning Methods

Learning- and resource-sharing-based online communities have become important knowledge dissemination channels. Interviewees indicated that learning communities enable freer, more open learning environments. People can access diverse learning resources and expand knowledge without geographical or temporal constraints. Simultaneously, learning community communication and interaction help meet like-minded partners and facilitate mutual monitoring. Peer pressure in online knowledge communities makes students perceive group pressure, stimulating self-drive. In short, combining external supervision and self-drive ensures effective, focused distance learning.

4.2.2 Improving Online Teaching Models to Energize Knowledge Dissemination

Aligning with online education characteristics and leveraging digital technology advantages can drive deep changes in teaching and learning. In open, shared digital network spaces, students as cyber information nodes need more accurate information and personalized knowledge. For online education providers, consumer-side feedback can effectively meet students' personalized knowledge needs by informing production-side adjustments. Breaking classroom lecture system boundaries and introducing remote collaboration and knowledge-sharing technologies can support innovations like cross-class teacher sharing, cross-school electives, and cross-regional collaborative teaching, continuously energizing knowledge dissemination. Consequently, designing personalized learning activities, flexibilizing course topics, and expanding interdisciplinary learning can improve online education effectiveness. Innovative online education development can create new educational forms distinct from traditional lectures, providing more student growth options.

4.3 Online Education Trends and Multiple Challenges

Knowledge is now disseminated and learned through diverse methods. Interview results show 73% of respondents believe combining online and offline modes suits future education better, with "offline lectures, online support" becoming a new trend. Offline public classroom lectures better facilitate effective knowledge dissemination, learning efficiency, and concentration; live and recorded online classes better enable repeated knowledge understanding and absorption. Simultaneously, online classes can extend offline public classrooms, with richer, more diverse professional knowledge and materials available through online information media, facilitating in-depth learning.

Education and teaching must also innovate. Interviews reveal that scientific study plans, detailed work-rest time allocation, and clear study-rest boundaries significantly improve online education efficiency. Additionally, independent learning awareness becomes an important criterion for judging online education effectiveness. The online education model also places new demands on teach-

ing: teachers must adapt their methods to online formats and actively leverage online advantages to help students adapt, while students must mobilize internal drive and focus on their own development.

Notably, online education privacy protection needs improvement. The real-online world intersection complicates privacy protection. In our interviews, 46% explicitly refused webcam use during online classes, and 34% said webcam use somewhat violated their privacy. Meanwhile, 60% used virtual backgrounds, primarily to mask messy private spaces and protect personal and others' privacy. Shifting from traditional offline public classrooms to home-based personal online learning represents a dramatic move from public to private space. With the internet as the communication medium, personal privacy space faces constant impact from online education platforms due to knowledge dissemination needs.

Splitting learning spaces helps protect privacy. In online education, dedicated learning periods separate learning space from daily life space, with learning in specific areas improving concentration. Students should account for online education's time-space uncertainties, make reasonable study plans, and effectively divide study spaces to maximize online class absorption. Moreover, separating learning space from personal privacy space maximizes privacy security and prevents leaks from online education platform uncertainties.

5 Summary and Reflection

Online education models need enhancement through medium feature utilization to increase platform impact. As the epidemic improves, many schools have returned to offline teaching, but this doesn't mean online education is disappearing. Rather, online education can seize this opportunity to create unique value. Combined with offline teaching, teachers can use online platforms to upload coursework, assign homework, and record lessons for student review and knowledge expansion beyond classrooms. Learning communities can maximize platform functions by sharing materials, answering questions, and mutual learning, broadening models beyond traditional teaching.

Under online education models, learning and living spaces are re-divided, requiring improved personal privacy protection policies. Due to knowledge dissemination needs, personal privacy space faces constant impact from online education platforms. Therefore, properly handling separation between personal privacy life and learning state to ensure privacy protection becomes crucial. Separating learning space from living environment maximizes learning space functionality and improves efficiency and concentration. Simultaneously, spatial separation helps students achieve psychological balance.

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