

## **CONNECTING CLASSROOMS: THE SYNERGY OF MOBILE INTERNET IN TRANSFORMATIVE EDUCATION ECOSYSTEMS**

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**Abstract:** The proliferation of online education and mobile internet technology has led to a profound transformation in the field of education. This shift goes beyond merely addressing the limitations of traditional teaching methods; it also introduces a new set of challenges. In response to these changes, Aozhan has introduced a novel concept: the mobile internet education ecosystem. This innovative approach leverages mobile internet technology to enhance traditional education practices, creating a more engaging and relaxed learning environment for students. Unlike conventional online education models, the mobile internet education ecosystem adopts an internet-centric perspective to guide educational processes. Through the use of mobile internet clients, it seamlessly integrates the real-time interactivity of mobile internet technology with the comprehensive scope of an educational ecosystem. This fusion allows for a dynamic and holistic approach to teaching and learning, grounded in internet-based thinking. By harnessing the strengths of internet-based education and traditional teaching methods, this approach holds the potential to significantly advance the reform and development of education in the modern era. It promises to empower educators and enrich the learning experiences of students, paving the way for a more effective and engaging educational landscape.

**Keywords:** Mobile internet, education ecosystem, online education, internet technology, educational reform.

### **Introduction**

With the continuous popularization of online education and mobile internet technology, the application of the internet in the process of education and teaching is becoming more and more in-depth. The application of internet technology in education and teaching not only makes up for the shortcomings of traditional teaching work, but also presents many new problems. In this context, Aozhan proposed a mobile internet education ecosystem, which participates in solving the current traditional education work through mobile internet technology, to help students learn relevant knowledge in a more relaxed and enjoyable atmosphere. The mobile internet education ecosystem is not a traditional approach to online education and management through mobile internet technology, but rather guides education and teaching work through internet thinking. By applying mobile internet clients, it integrates the real-time interactivity of mobile internet and the closed-loop comprehensiveness of the education ecosystem, and guides education and teaching work through internet thinking. By organically combining the advantages of internet education with those of traditional education, we can better promote the reform and development of education and teaching in the context of the new era.

#### **1. The connotation of the mobile internet education ecosystem**

The mobile Internet education ecosystem refers to the construction of a social network circle based on mobile Internet technology, with Internet clients as the carrier, various Internet terminal platforms, various Internet technologies as the communication media, and network data technologies as the support, and the fragmentation

of educational resources and learning content, so as to create an all-round evaluation system based on Big data technology and multi-mode coexistence for students, Establish a massive knowledge learning and living system that combines multiple modes such as knowledge search, socializing, education, and learning. The construction of a mobile internet education ecosystem not only breaks through the constraints of traditional education models, but also breaks through the limitations of time and space on education work. Through the mobile internet education ecosystem, students can use fragmented time to conduct knowledge queries and learning anytime and anywhere (as shown in Figure 1)<sup>[1]</sup>.

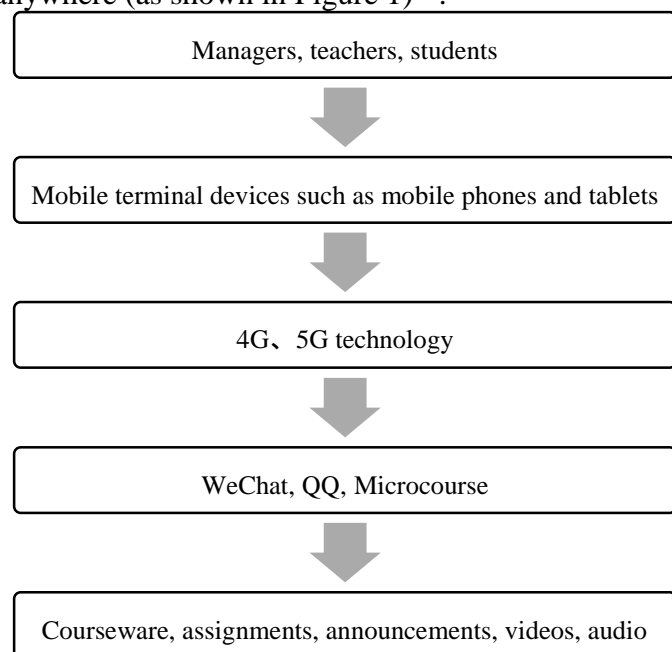


Figure 1: Composition of the mobile internet education ecosystem

The mobile internet education ecosystem has the following characteristics: firstly, it is characterized by portability. Mobile internet devices are easy to carry and can be used for education and learning through the mobile internet, resulting in faster information and knowledge transfer speeds; Secondly, it is characterized by timeliness. The mobile internet education ecosystem integrates fragmented time, and each knowledge point is independent of each other. It can supplement and improve the content of different knowledge points at any time, or directly replace the original knowledge points through similar knowledge points; finally, there is the characteristic of interactivity. Compared with the traditional online teaching, the mobile Internet education ecosystem uses the Personal media platform as the carrier, so teachers and students can transfer information, acquire knowledge and express opinions in the mobile Internet education ecosystem. The interaction between teachers and students is increased, which enriches and simplifies the communication and interaction between teachers and students. Students can ask questions about points they do not understand at any time, Students are more receptive to knowledge <sup>[2]</sup>.

## 2. Application advantages of mobile internet education ecosystem

Firstly, the application of the mobile internet education ecosystem has enhanced students' learning enthusiasm and effectively expanded their knowledge fields. In the classroom, by utilizing the mobile internet education ecosystem, teachers can provide students with more high-quality educational information. Students can search for knowledge anytime and anywhere through carriers such as mobile phones and tablets, expanding their knowledge field and improving their learning enthusiasm. Therefore, the application of the mobile internet education ecosystem can meet the learning needs of more levels of students. At the same time, the mobile internet education ecosystem has not ignored traditional education. Senior teachers can use the mobile internet education

ecosystem to timely grasp students' learning situation and receive feedback on their learning outcomes. Outside of the classroom, schools can utilize the mobile internet education ecosystem to fragmented the educational knowledge that students need to learn, and add other relevant knowledge points to enrich their knowledge fields. Moreover, the mobile internet education ecosystem can also enable students to learn knowledge in a relaxed and enjoyable atmosphere through illustrated methods, enriching the channels for students to receive knowledge<sup>[3]</sup>. Secondly, the application of the mobile internet education ecosystem helps to promote teacher-student communication and improve management efficiency. The mobile internet education ecosystem can be carried out through various carriers. The network carriers used for the mobile internet education ecosystem mainly include platforms such as WeChat, QQ, and WeChat. In order to facilitate the construction of the mobile internet education ecosystem, teachers will also build QQ groups and WeChat groups to facilitate timely sending and receiving notifications and understanding the situation of teachers and students. Teachers can use chat groups to gain a deeper understanding of students' needs and facilitate communication between teachers and students. Through the WeChat platform, schools can also establish a student management system to check students' learning status, exam scores, etc. at any time, effectively improving student management efficiency<sup>[4]</sup>. Finally, the application of the mobile internet education ecosystem can help promote more high-quality education activities in schools. Through the mobile internet education ecosystem, the entire school's teachers, students, and other personnel are gathered in a network circle. From students to teachers, and then to leaders, educational information can be shared, so that any user can share effective educational activities with all teachers and students in the school. Therefore, the application of the mobile internet education ecosystem effectively mobilizes students' learning enthusiasm, Promote more creative and high-quality educational activities, and teachers can also use various high-quality teaching activities through internet communication platforms such as WeChat groups and QQ groups, so that students can not only receive rich theoretical knowledge education, but also consciously receive education and influence from traditional culture.

### **3. The path to building a mobile internet education ecosystem**

#### **4.1. The Integration of Mobile Internet Education Ecosystem and Teaching Knowledge**

When we construct the mobile internet education ecosystem, we should take the concept of "Integration, communication, learning, growth" as the basic principle. Teachers should make bold innovations in traditional teaching methods, can be the network of self-media and classroom integration, with the help of QQ, wechat, micro-class platform for teaching attempts. Mobile internet education ecosystem construction platform should break the space, time constraints, to enable students to learn relevant knowledge at any time and anywhere through mobile client, to enable students to actively participate in the mobile internet education ecosystem, and to enjoy the fun brought by the mobile internet education ecosystem, at the same time effectively expand the students' horizons (specific steps as shown in Table 1)<sup>[5]</sup>. For example, in the process of building a mobile internet education ecosystem, teachers can enable students to search and share relevant knowledge on their own through mobile phones under the guidance of teachers. For example, when explaining the commonly used components in the field of electronic technology, such as "crystal transistors," students search for relevant transistor knowledge through mobile phones and group together to discuss the knowledge they have found. Members of each group actively express their opinions on the basis of their respective inquiries. Finally, the group leaders summarize the knowledge collected by their group, leveraging students' classroom role as the main body, enabling them to gain a sense of learning achievement through the mobile internet education ecosystem, and thereby improving students' learning enthusiasm.

Table 1: Presentation period of fragmented resources

Before class	Students consolidate and review relevant materials in advance to clear knowledge barriers before class
In class	Students use mobile internet to search for relevant knowledge, form viewpoints through group collaboration, and complete knowledge expansion
after class	Push extended exercises to students in the form of fragmented resources, allowing them to choose exercises independently and consolidate their knowledge

#### 4.2. Enrich teaching forms through the mobile internet education ecosystem

With the continuous popularization of online education and mobile Internet technology, Personal media mobile terminals such as mobile phones have become necessary for students to learn, and have become an important media of communication that can not be ignored by teachers in the process of school education. Therefore, how to use the Personal media mobile terminal scientifically is an inextricable topic in building the mobile Internet education ecosystem, and also tests how teachers can make full use of the Personal media mobile terminal in the classroom <sup>[6]</sup>. To build a mobile internet education ecosystem, firstly, teachers must fully and comprehensively consider the selection of educational information resources, and at the same time, make reasonable use of these high-quality educational resources, in order to achieve a close integration between the mobile internet education ecosystem and school education. In the selection of information resources, it is necessary to combine textbooks with reality, make educational resources in textbooks interesting and simple, and start thinking from the perspective of students; Secondly, to build a mobile internet education ecosystem, it is necessary to expand educational content and combine educational characteristics to achieve seamless integration between teaching and the mobile internet education ecosystem. That is, the teaching content should include relevant theoretical and practical knowledge; Finally, based on the actual abilities of school students, educational resources should be closely linked to their learning and life. By constructing a real-life context, complex teaching content should be visualized and trended to arouse students' interest in learning <sup>[6]</sup>.

#### 4.3. Bottlenecks in the Construction of Mobile Internet Education Ecosystem

Compared to classroom teaching, the mobile internet education ecosystem has the advantage of fragmented teaching. When teachers build a mobile internet education ecosystem, they need to pay attention to the problems and bottlenecks: firstly, building a mobile internet education ecosystem makes it difficult to achieve feedback from teachers and students; Secondly, can the level of students' self-learning ability adapt to the mobile internet education ecosystem; Finally, how can the mobile internet education ecosystem achieve communication between students and teachers. Teachers can solve the above problems through the following strategies: firstly, in the process of building a mobile internet education ecosystem, teachers need to provide customized services based on students' actual learning needs, organically combine mobile internet education platforms and education, and make the two produce biochemical reactions, so as to promote the strengths and avoid weaknesses of the mobile internet education ecosystem. At the same time, teachers should make good use of students' fragmented learning time, combine the classroom teaching content and fragmented time organically, and present the teaching content in various ways. This integration aims to achieve a harmonious combination of traditional classroom teaching and fragmented learning, presenting educational content in various formats, Secondly, in the process of building a mobile internet education ecosystem, teachers need to reach a consensus with students, jointly formulate "education rules", and strengthen the management of students. This is the guarantee for building a mobile internet education ecosystem and also helps to achieve equal communication between teachers and students in the mobile internet education ecosystem <sup>[7]</sup>.

#### 4.4. Building a Mobile Internet Education Ecological Management System

First of all, the construction of classroom visual management module. Design a chain class visual management module, which can realize the mobile internet education ecological management system for each teacher and students in and out of the record, including in and out of class sign-in and Reminder, education and training, daily attendance card, leave application, examination, etc. . This module achieves the digitization of records for regular training classrooms, with students and teachers jointly completing the operations. These operations include classroom check-ins and reminders, educational training, daily attendance clock-ins, leave applications, and examinations. The above materials need to be registered and archived in the mobile internet education ecosystem management system, and the progress will be uniformly reviewed and completed before the graduation assessment; Secondly, construct a classroom education management module. The classroom education management module can achieve attendance records of teachers and students for various teaching activities, and achieve online teaching content and feedback; Realize online, visualized, and traceable content such as base lectures, communication and discussion, and teaching inspections. Teaching materials need to be registered and archived in the mobile internet education ecosystem management system, which can respond to various unexpected situations and inspections in the classroom at any time; Finally, build an evaluation management module. The evaluation management module can achieve mutual evaluation among students, teachers, and management personnel of the mobile internet education ecosystem. Students, teachers, and management personnel of the mobile internet education ecosystem can conduct multidimensional and multi temporal mutual evaluations, and provide regular feedback. The evaluation process adopts a double-blind approach to avoid personnel concerns and unscientific evaluations. By constructing a mobile internet education ecosystem management system and designing a standardized training, teaching, and management system based on mobile terminal applications according to the actual situation of classroom education, information management of classroom education can be achieved. The use of a mobile internet education ecosystem management system has brought many conveniences to classroom management work. The mobile internet education ecosystem management system dynamically manages based on the information provided by the system, Loop by loop, entering a continuous improvement cycle management process. The application of mobile internet education ecosystem management system not only saves management related human resources, but also further improves teaching management ability and quality. Within a well-established framework of systems and management, we aim to enhance the standardization of teaching activities and strengthen the normative assessment of classrooms. By utilizing information systems, we seek to improve efficiency, promote refined management, and lay the foundation for the continuous improvement of standardized training in classroom teaching.

#### 5. Conclusion

In summary, building a mobile internet education ecosystem has the advantages of enhancing students' learning enthusiasm, expanding students' knowledge fields, promoting teacher-student communication, improving management efficiency, and promoting schools to carry out more high-quality educational activities. In the process of building a mobile internet education ecosystem, teachers can integrate teaching knowledge through the construction of a mobile internet education ecosystem. By enriching teaching forms through the mobile internet education ecosystem and addressing bottlenecks in the construction of the mobile internet education ecosystem, we fully utilize network convenience to fragmented teaching practices, enabling students to supplement and learn knowledge anytime and anywhere, and better promote the reform and development of education and teaching work in the new era.

#### References

Yan Liang. *Reflections on the Development Strategy of the Mobile Internet Education Ecosystem [J]. Think Tank Times*, 2019, (34): 190+192.

- Shi Jing. *Research on the Application of Fragmented Learning in College English Teaching under the Mobile Internet Education Ecosystem* [J]. *Journal of Heilongjiang University of Technology (Comprehensive Edition)*, 2019, 19 (02): 123-126.
- Wu Yue. *The Combination of Mobile Internet Education Ecology and English Classrooms in Civil Aviation Vocational Colleges* [J]. *Exam Weekly*, 2017, (04): 90-91.
- Qing Jiandong. *An Analysis of the Application of Mobile Internet Education Ecosystem in Teaching* [J]. *Encyclopedia Forum Online magazine*, 2021, (03): 1164-1165.
- Deng Liyou. *Research on the New teacher-student Relationship in "Subject Fragmentation Teaching" under the Mobile Internet Education Ecosystem* [J]. *Education Press*, 2017, (19): 154-155. [6] Deng Liyou. *Education transformation in the mobile The Internet Age - "building a mobile Internet education ecosystem" Taking the Civil Aviation Safety Institute as an example* [J]. *Youth*, 2017, (12): 203-204.
- Yan Liang. *Reflections on the Development Strategy of the Mobile Internet Education Ecosystem* [J]. *Think Tank Era*, 2019, (34):190-192.