Study on the Improvement of Educational Management and Teaching in the Context of Education Informatization

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Abstract: Information technology has been advancing rapidly, allowing education informatization and the improvement of educational management and teaching. This paper describes the relationship between educational management and teaching through a literature review and inductive summarization. Besides, the significance of improving education management and teaching under the background of information technology and the challenges faced in applying information technology in education are also discussed in this paper. Several educational management strategies on the basis of information technology are proposed in this paper. This includes diversifying education management bodies and building hybrid teaching modes, so as to help colleges improve their education management and teaching.

Keywords: Information technology in education; Educational management; Teaching; Improvement

1. Introduction

The quality of higher education has improved significantly compared to the past. Under the background of information technology, the educational management and teaching of many universities have become increasingly informatized. However, it is not easy to improve the educational management and the teaching of a university because many factors need to be considered, making the process rather challenging. Colleges and universities should also emphasize the improvement of education management and teaching under the background of education informatization.

2. Overview of educational management and teaching under the background of education informatization

    (i)   Meaning and impact of informatization in education

        Education informatization is a form of education that is guided by modern education theories and

ideas. Through education informatization, various educational resources can be developed, and the education and teaching process can be optimized to cultivate students' information literacy [1]. The popularization of the Internet and the development of information technology have permitted education informatization. Besides, Internet+ education also plays a role in education informatization. Education informatization significantly impacted the development of education, in which it directed the path for education innovation in the new era. Information technology has been utilized by teachers in their lessons as a result of education informatization. Therefore, it is clear that education informatization has been widely recognized by the educational sector and it has helped drive the development of education.

(ii) The relationship between educational management and teaching

Education management is closely tied to teaching, and these two items are equally important. Educational management is described as the management of educational teams and the integration of educational resources by administrators. As educational management affects the allocation of educational resources and the educational environment, it will also have an impact on the teaching process. Teaching refers to the teaching of a course, and the teaching will affect the magnitude of the pressure on educational management. Moreover, the needs of teaching are usually similar to those of educational management. Because of the close connection between education management and teaching, schools must do a good job of synchronizing education management and teaching.

(iii) The value of improving educational management and teaching in the context of informatization

The reason educational management and teaching improvement in the context of information technology is highly advocated is due to its undeniable value [2]. The matters involved in education management are more diverse, and they have to serve the purpose of facilitating the teaching process. There are many challenges in educational management because it involves many aspects. Under the background of education informatization, information technology can be better applied in education management, making education management more efficient. In terms of teaching, the application of information technology helps improve teaching efficiency and even enriches the connotation of teaching. Besides, many shortcomings in teaching can also be remedied through the application of information technology.

3. Shortcomings in education management and teaching in the context of education informatization

(i) The objectives of education management are vague

Many colleges and universities are trying to carry out educational management. However, many of them lack clear systematic planning and management goals. Educational management is a dynamic process that involves the construction of teachers, the integration of educational resources, as well as teaching evaluation, and many other matters. The complex nature of management often puts forward a lot of new requirements on the school, and in the case of relatively limited resources, whether the management planning can be carried out well, and whether the management objectives can be clearly defined usually has a direct impact on the management process. Some colleges and universities perceive education management too idealistically, but in the context of deepening education reform, management involves more diverse matters, which poses many challenges. When the management planning and process are neglected, the management would just be carried out blindly, which is the case for many universities.

(ii) Limited main body of education management

The Academic Affairs Office is often the main body of education management in many universities, with little involvement from other departments or faculties. Having only one main body of educational management comes with many disadvantages. All along, the Academic Affairs Office has been responsible for most of the work in educational management in many universities. However, the increasing workload puts great pressure on the Academic Affairs Office. In addition, some colleges and universities do not apply information technology in educational management, rendering their management procedures rather ineffective. This problem is more evident in universities with many faculties, and it is not conducive to creating a good management environment.

(iii) More rigid teaching models

Higher education is supposed to be diversified, but the teaching mode in many colleges and universities is relatively rigid. In university education, the teacher often occupies a dominant position, and there is a lack of connection between the lessons and the student's learning progress. Besides, there is also a lack of teacher-student interaction [3]. In addition, although multimedia has been used in teaching, these tools are only utilized by the teachers in the lessons, not by the students. Most teachers have a limited understanding of information technology in education, and only a few have tried to optimize the teaching mode using information technology. Hence, the rigid teaching mode also resulted in lower teaching efficiency.

(iv) High dependence on textbooks

The selection of teaching methods and the integration of teaching resources play a major role in teaching. Currently, many teachers have been able to utilize multimedia and information technology in their lessons, but the dependence on textbooks is still high. While specialized knowledge can be learned from textbooks, there are many ways to increase the effectiveness of teaching. Especially when the textbooks of some courses are outdated, it is important to introduce new resources to better adapt to the latest information related to the course. Under the background of education informatization, teaching resources have become more abundant, and these resources can provide effective support for the teaching of many courses. However, many teachers are not aware of these resources and choose to depend on textbooks instead [4], which does not help improve the quality of teaching and expand the students' horizons.

4. Strategies for improving educational management and teaching in the context of educational informatization

(i) Educational management planning on the basis of educational informatization

To improve educational management and teaching in the context of education informatization, it is necessary to first recognize the issues in educational management and then perform management planning on the basis of educational informatization. The planning should involve setting clear management objectives, so as to enhance the direction and purpose of the management [5]. For example, a foreign language college in Xi'an initiated education management informatization in 2019, and their management goals were applying information technology by using management software, constructing "double-qualified" teacher teams, and other matters. After clarifying the management objectives, the direction and purpose of education management activities in the university were further enhanced, and the effectiveness and efficiency of the management system also improved. In particular, the application of information technology in educational management increased the efficiency of

management activities such as teacher team building and education integration. Therefore, information technology management should be applied in educational management, and management planning should be carried out systematically with clear goals.

(ii) Information technology-based pluralistic educational management bodies

In certain colleges and universities, a single department is responsible for education management, placing a significant workload on the Academic Affairs Office. This increased workload has had a detrimental impact on the regular progress of various management tasks [6]. Education informatization makes it easier to allow the involvement of multiple subjects in educational management, so that different subjects can play different roles. For instance, comprehensive universities tend to be large in scale, and their education management tasks are diverse. In 2021, the university implemented an education management system that incorporates information technology. The Academic Affairs Office, as the primary administrative body, is tasked with operating the system. It efficiently handles some of the education management responsibilities using features like intelligent class scheduling and online assessment within the system. At the same time, the college has also carried out the construction of professional course teachers in the colleges and the integration of educational resources among faculties and departments. The application of information technology not only improved the educational management in this university, but also created a new educational management system involving multiple subjects [7].

(iii) Building a hybrid teaching mode based on information technology

The focus of teaching improvement in colleges and universities under the background of education informatization should not be on enhancing the innovation in teaching by applying information technology, but also the optimization of the teaching mode. At present, theories on online teaching are already mature, and the network and information technology can also provide effective support to online teaching [8]. Building a hybrid teaching mode using information technology is also an important issue. For example, a university applied a hybrid (online + offline) teaching mode in their tourism management course. In this hybrid mode, teachers would make short videos for the students to encourage independent learning. In classroom teaching, teachers will gather their students' feedback and further explain the knowledge of the course like tourism resources development, tourism management, and other content. The hybrid teaching mode allows students to be the main body of teaching, and it encourages students to take initiative in learning, making each lesson more fruitful [9].

(iv) Strengthening the integration and utilization of information technology teaching resources

In the context of educational informatization, enhancing teaching quality should involve the effective use of digital teaching resources. This means integrating these resources with traditional teaching methods to create a more dynamic and engaging learning experience. For instance, educators can blend textbook content with Massive Open Online Course (MOOC) materials that align with the course's key topics. This approach not only supplements students' knowledge but also exposes them to innovative and up-to-date information in their field of study [10]. In addition, teachers can also collect microteaching resources, make microteaching videos, and share them on online platforms, so that the students can have a better understanding of the subject. There are various types of digital teaching resources available on the Internet like mind maps and other types of resources, which can help students further consolidate the knowledge that they have learned. Incorporating educational technology into their teaching methods, educators should prioritize the integration of digital teaching resources. Enriching the pool of teaching resources should be seen as a fundamental approach to enhancing teaching quality.

5. Conclusion

Colleges and universities should enhance their understanding of education informatization and its impact on educational management and teaching. Besides, they should actively make attempts to improve education management and teaching in the context of education informatization. Identifying the existing shortcomings in educational management and teaching is crucial for targeted improvements. These institutions should also focus on accumulating practical experience to optimize educational management and teaching more effectively. With good educational management, the teaching of courses will become more effective.

Disclosure statement

The author declares no conflict of interest.

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