Research on the Practice of the Integration of Smart Phone into Classroom Teaching in New Media Era

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Abstract. Under the new media circumstances that mobile internet technology develops gradually and the smart devices spread increasingly in college students, it is common that students look down to their phones in class and traditional classroom teaching model fails to achieve excellent performance. This research combines theory with practice and tries to integrate smart phone into classroom teaching in order to transform traditional teaching model via the deep integration of smart phone into classroom teaching. Based on the "Computers Application Foundation", this study aims to solve the low-efficiency problems in vocational college classroom teaching, for instance, teachers demonstration problem, students' looking down to their phones while in classroom, the low efficiency of problem solving after class session and failure to achieve "effective learning" and "deep learning" et al.

1. Introduction

We are now in an age in which the computer and communication technologies develop rapidly, compared with the four traditional media such as newspaper, magazine, radio and television, now there comes a so-called "the Fifth Media", which is an innovative new media and built on the digital information technology with interactive communication as its characteristics, such as digital magazine, digital newspaper, digital radio, text message, mobile television, network, desktop television, digital movie, touchable media and cellular network et al.. In a word, the new media has the following characteristic: it meets people's fragmented needs for leisure and entertainment. With the increasing pace of life and work, people's time for leisure is inclined to be fragmented, and the new media appears for satisfying individual's needs. It satisfies the needs of interactive communication, entertainment and information access. Marked by the internet, the third-generation media comes to the stage of personal expression and communication in terms of the communication demands. As for Internet television and mobile television, consumers are also producers. People are more positive with regard to the purpose and selection of new media usage. The media usage and content selection become more personalized, which gives rise to the more detailed market segmentation.

2. Effects that the New Media Exerts on Classroom Teaching

2.1 The Digitalization of Teaching and Learning

In the age of new media, the educational field from teaching resources to teaching style has been digitalized. While the traditional blackboard, textbook and paper homework etc. still exist in classroom, however, due to its unmatchable advantages, such as novelty, intuition and richness, digital teaching resources are becoming more and more popular among teachers and students. Teachers utilize micro-lecture, short video, MOOC and other digital teaching resources to expand the content of classroom teaching, meanwhile the students are attracted by these resources. Compared with boring words, the students prefer the visual experiences brought by the combination of words, pictures, audios and videos. And the constructivism holds that the learners can more easily construct and understand knowledge under multiple sensory stimulations.

2.2 The Change of Relationship between Teachers and Students

With the digitalization of teaching and learning, the relationship between teachers and students is

undergoing gradual change. In the traditional teaching model, teachers accumulate professional knowledge and experiences, they are not only teachers but also the one who dominates the whole teaching and learning process, and they determine the teaching content, classroom organization and the pace of teaching and learning et al. While in the new media age, students and teachers have equal access to digital learning resources via various media, therefore, teachers' authority in learning behavior is affected and their role as a knowledge disseminator is also weakened. Teachers gradually change from the dominator of learning to the guider, while students become more active, and they take the initiative to attain learning resources rather than passively accepting knowledge. They construct, share and communicate the knowledge, and their roles as learning subject are attracting more and more attention.

2.3 Students' Dependence on Teachers

The learning in the new media era is characterized by openness. Students and teachers have equal access to resources in the network environment, especially the access to knowledge. Students do not have to solve problems only via teachers' responses in the classroom, instead they are able to access digital media such as the internet anywhere anytime without the restrictions of space and time. Under this circumstances, students' dependence on teachers is more inclined to be the emotional aspects, hoping that teachers could guide their learning motivation, and provide emotional and intellectual support when they are faced with struggles and setbacks in the knowledge construction during the self-directed learning process, not only just the answers.

2.4 The Change of Evaluation Mechanism

With the change of learning content, learning form and teacher-student relationship, the key evaluation part in teaching and learning process also undergoes changes. As teachers' authority in teaching is weakened, the single summative assessment led by teachers is no longer very convincing. Students' self-evaluation, peer evaluation and evaluation by teachers are included in the evaluation system. Moreover, due to the development of new media, students' activities and learning process in the digital learning platform can be stored and evaluated, which can facilitate the improvement of evaluation mechanism.

3. The Feasibility of the Integration of Smart Phone into Classroom Teaching

3.1 The Development of Communication Technologies and Spread of Smart Phones

The "2017-2022 China Smart Phone Market Analysis and Investment Prospects Analysis Report" released by Zhiyan Consulting pointed out that the shipment of smart phones all over the world in the fourth quarter of 2016 reached 428.5 million units, increasing by 6.9% than the 407 million units in previous quarter. In 2016, the total shipment of smart phone in global market reached 1.47 billion units, which is the highest shipment in one single year. While the total shipment in China reached 465 million units, which makes up 1/3 of the global market. A market research released by CTR2016 indicated that the ownership of smart phones by college students in China is close to 100%. With the downgrade of the price of cellular data, the meaning of smart phone for college students extends from communication to entertainment, friend-making, shopping, learning and many other fields. Emotionally, college students are very dependent on smart phones, they carry smart phones with them everywhere and view them as a daily essential.

3.2 The Present Situation of Classroom Teaching under the Influence of Smart Phone

In recent years, there is no denying fact that the influences that smart phone exert on traditional classroom are becoming deeper and deeper. Due to its portability, intelligence and fast internet access supported by 4G signal and other characteristics, students even feel hard to put smart phone down in the classroom. Students use phones to take pictures, record audio and video in order to keep the key points of classroom teaching, then they use these recordings to restore the classroom situation, which provides a lot of conveniences to review knowledge. What is more, students also use WeChat platform to share course information and teaching resources et al. But more often,

smart phone is having negative effect on classroom teaching and learning, because students are so addicted to the entertainment brought by smart phone that they fail to concentrate in the classroom. In the recent two years, teachers feel more and more powerless in the classroom and they are losing control of the classroom. Teachers try their very best to draw students' attention from smart phones to learning and classroom activities but in vain, such classroom is inefficient.

3.3 Theoretical Foundation for the Integration of Smart Phone into Classroom Teaching

The theories underlying the integration of smart phone into classroom teaching include mobile learning theory, micro-learning theory and informal learning theory et al. The informal learning theory holds that under the support of mobile technologies and hardware, learners are able to access information and learning resources anytime at anywhere, and they can also interact with teachers via the network. Micro-learning theory emphasizes the miniaturization of learning content, relatively independent and modular design, that is, the modular processing of independent learning content, learners can learn one specific independent module without being affected by other content in their spare time. Informal learning corresponds to formal learning, it suggests that some learning occurs anywhere in life, and when it comes into people's lives and happens naturally, it can be regarded as meaningful. Informal learning stresses more that learners should initiate, self-control and be responsible their learning. This kind of inadvertent learning activities have more profound cognitive effects on learners.

4. Practical Model of the Integration of Smart Phone into Classroom Teaching

4.1 Construct the Personalized Smart Learning Environment under the Support of Smart Phone

Learning environment includes hardware environment and software resources. In terms of hardware environment, some universities have made significant achievements with regard to the construction of digital campus with the complete cover of Wi-Fi. Of course, there are some universities in which the classrooms are not covered with Wi-Fi, under such a situation, if students learn in classroom then they have to consume the cellular data. Although the price of traffic data continues to decrease, yet it is still unrealistic for students to learn using their own cellular data. Therefore, to make the integration of smart phone into classroom teaching a reality, it is primary to improve the Wi-Fi coverage on campus, at least in main teaching spots such as library and teaching building. When students do not have to worry about their cellular data, they are more inclined to participate in classroom learning using smart phone, or they would prefer to watching videos, using WeChat and shopping et al. With regard to software resources, although there is a large variety of learning applications installed in students' phones, yet few of them are suitable for self-learning, let alone for classroom teaching use. Therefore, the applications that can be used for classroom teaching, mutual interaction and classroom integration are highly needed by universities. Meanwhile, the personalized smart learning platform that can check students' attendance rate, interaction, teaching content on-demand playback, notification of learning resources and homework test et al. is constructed.

4.2 Develop Rich Mobile Learning Resources

Under the previously mentioned new media environment, students equal access to learning resources via digital platform raises new challenges for teachers. Teachers can no longer rely on their professional accumulation and experience to pass some old-fashioned and even outdated learning materials to students. It is inappropriate for teachers to talk all the time in class in the case that students have easy access to learning resources with the support of smart phones. Teachers should be analyze and integrate these resources from a more superior standpoint, and consider the characteristics of smart phones in order to develop more resources that are characterized by "miniaturization", "independence", "visualization" and "interaction" and so on. "Micro-lecture" is a typical resource with those characteristics. However, most of the developed micro-lectures are used

for contest instead of being utilized in actual teaching. Teachers should change their mindset and develop micro-lectures based on real teaching, and put the 45-minute teaching content into modulate. Then teachers integrate some supplementary learning materials to develop micro-lectures and push these lectures to students. When students are presented with these refreshing learning resources, their learning motivation will be raised, thus improving learning performance.

This research is based on the course of "Computers Application Foundation". After last round of curriculum reform, this course is basically organized around projects and assignments, that is, the class is implemented around specific projects and task-driven, and the relevant knowledge point is integrated into specific projects, and students learn specific knowledge while completing projects. Even though, I still notice students' carelessness in the class and their inability in completing tasks. If we can refine the tasks and make micro-lectures about them, namely, the miniaturization of tasks. For instance, a complete class can be broken down into "task description", "task analysis", "task decomposition" and "task implementation" et al. If students can easily access these mobile learning resources, then even though they may get careless in class, they are still able to watch the micro-lectures they need during the process of completing tasks, which can surely improve their learning efficiency.

4.3 Form a Learning Resources Sharing Mechanism Based on Smart Phones

The constructivism holds that learning is a behavioral process that is achieved by the help of scholars through interpersonal interactions with each other in a specific context of related social culture. Under the context of new media, students can easily access a wealth of learning resources, but due to students' different levels of information literacy such as information screening ability, some students get puzzled when faced with massive information. If we could utilize WeChat, micro-blog and moments as platforms to form a learning resources sharing mechanism, then we would be able to provide students with collaborative and interactive platforms, and simultaneously, we could improve students' efficiency of obtaining valuable information. Based on smart phones, each student would be able to reconstruct and publish learning resources in accordance with their own understandings. Meanwhile, due to students' different original levels, many ideas and perspectives could be formed during the process and students could interact with each other with regard to the various ideas and learn from each other. More importantly, the whole process of knowledge construction, interaction, sharing and reconstruction can be stored in smart phones, therefore, students are able to review the whole learning process by checking information, which could make up for the disadvantages of discussions in classroom in which the discussion cannot be stored and students fail to be impressed. What is more, teachers can fully dig their potential as learning guiders, and give students in-time guidance and correction in according to learning themes during the process of knowledge construction.

In the class of "Computers Application Foundation", students can upload their classroom works and check other students' works via smart phones anytime. Therefore, they are able to get inspired by others and continuously improve their products without having to wait for teachers' review to do comparisons. With the support of smart phones, the efficiency of teaching will be much higher than the traditional classroom, which can lay a foundation for the future feedback and evaluation.

4.4 Construct the "learning-facilitation" evaluation mechanism with the effective support of smart phones

Traditional class evaluation method is usually based on the results of usual performance and final exams and then further determines the percentages of the two parts according to the nature and characteristics of course. For example, in the course of "Computers Application Foundation", the usual performance mainly refer to students' attendance rate, engagement in class, homework and unit test results and so on, while the final exam is usually carried out in the form of online test. Seemingly, this evaluation method considers students' learning process and has formative assessment involved, but actually, it is very difficult to quantify students' question-answering and interactions in class only by a simple mark. For instance, with an score range of 0 to 10, even though teachers give an "8" or "9" in class according to some reference criteria, yet it is very

subjective given that the time in class is limited. And practically, teachers should assign weight to each evaluation item and then score, synthesize, therefore, the whole process is very burdensome and complicated. If smart phones can be used instead to store students' learning process, including group discussion, question-answering, peer help, resources sharing and class test and many other aspects, and process these stored data to comprehensively evaluate students' learning behaviors, then we could transform the evaluation of learning results to the concern of learning itself. Both the teacher and student can get timely feedback from the data analysis and refer to other students' evaluation. In-time feedback has significant facilitating effects on learning and can correct students' learning methods and attitudes, thus bringing more effective learning performances.

5. Conclusion

The integration of smart phones into classroom teaching is an important form of the deep integration of information technology and teaching, and it is also a useful exploration of the combination of modern educational technology and traditional classroom. Through the rational application of smart phones, the problems existed such as the single teaching model, failure to share educational resources and the fall-behind of teaching evaluation mechanism can be effectively solved. With the "legalization" of smart phones in classroom combined with teachers appropriate guidance, the situation that students' addiction to smart phones and teachers' loss of control of classroom teaching can be improved. Also, teachers are freed from the repeated Q&A session in class, therefore, teachers are able to invest more time and efforts in providing students with guidance of learning methods and learning strategies, which makes teachers the real class organizers and their potential as learning guiders can be better. Of course, due to students' different levels of self-control ability and the strong attracting power of smart phones, various problems during the process of the integration of smart phones into classroom teaching are determined to occur, for instance, some students fail to get rid of smart phones and concentrate on learning, teachers cannot effectively control class situation et al. But we believe, with the continuous exploration on the management strategies and the mechanism of the integration of smart phones into classroom teaching, smart phones will definitely become a useful supplementary tool for classroom teaching rather than a scourge.

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