

From Blackboard to Smart Classroom: My Teaching Journey across Stages

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Abstract

With the development of educational information technology, information technology has greatly changed classroom teaching, teaching methods and teacher-student relationships. This paper divides my teaching experience into four common stages: the traditional stage using blackboards and projectors, the multimedia PPT stage, the smart teaching stage using Cloud Class, and the precise teaching stage using Rain Classroom. It systematically sorts out the teaching characteristics, advantages, and limitations of each stage. It also studies how Cloud Class and Rain Classroom help improve teaching, including class management, teacher-student communication, learning progress and assessment. Besides, it discusses how these tools support educational research, such as providing data, research topics and research results. The study shows that smart teaching tools can improve teaching efficiency and make class more active. They also offer real data for education research. They promote the transformation of teachers from experience-based teaching to data-driven teaching and realize the coordinated development of teaching and research.

Keywords: educational information; teaching tools; Cloud Class; Rain Classroom; teaching support; teaching and research

1. Introduction

As China's higher education develops with higher quality, new technologies like big data, mobile Internet and artificial intelligence are widely used in teaching. The change of teaching tools has changed how knowledge is shown, and also influenced teaching design, class interaction, learning check and teaching evaluation. The evolution from blackboards and projectors to PPT, and then to Cloud Class and Rain Classroom reflects the professional development of my teaching career.

Based on my years of teaching, I divide teaching into four connected stages: blackboard and projector stage, PPT stage, Cloud Class stage and Rain Classroom stage. Teaching ideas, class forms, communication ways and management are different in each stage. Smart tools like Cloud Class and Rain Classroom help break time and space limits, manage learning better and teach more precisely. At the same time, they provide rich data and real situations for education research, and make teaching and research more closely connected. This paper reviews each teaching stage and focuses on the value of smart teaching platforms, to help other teachers improve information-based teaching and research abilities.

2. Four Stages of Teaching Development and Their Features

2.1 Blackboards and Projectors: Traditional Teaching Based on Experience

At the beginning of my teaching, classes mainly used blackboards, with paper projectors. This is typical traditional teaching. Knowledge was mainly passed by teachers' speaking. Blackboards were used to show knowledge structure, explain logic and stress key points. Old projectors could only show static pictures and words, with limited information and simple forms.

Teaching at this stage depended a lot on teachers' experience. Communication was only face-to-face questions and answers, with few students joining in and slow feedback. Homework correction, attendance registration, and score statistics were all done manually, which was time-consuming and labor-intensive, making it difficult to continuously track students' learning processes. Teaching evaluation mainly depended on final exam scores, without paying enough attention to learning process. Unfortunately, I was still a green hand at this stage although I was extremely passionate about my new career. Looking back those "chalks and blackboard" days, I certainly made some silly mistakes in and after my classed and could have done better if without those regrets due to lack of teaching experience. However, this stage helped me build solid basic teaching skills, clear logic and good class management ability, which supported my later teaching reforms.

2.2 PPT Multimedia Stage: Visual Teaching Becomes Common

As multimedia equipment became popular in classrooms, PPT became the main teaching tool, and teaching entered the visual multimedia stage. Compared with blackboards and projectors, PPT has words, pictures, videos and animations, which make difficult content easier to understand. Class information became much more, and teaching and preparation became more efficient.

However, in practice, pure PPT teaching still had obvious limitations. First, I became a little "lazy" and sometimes tend to "read PPT" from the beginning to the end of the class, making it difficult to flexibly adjust content and pace according to students' real-time status. I sometimes became a slave of PPT, without which I didn't know how to deliver my lectures. Second, My PPT classes did not really bring my students close to me. Teacher-student interaction remained superficial, failing to achieve full participation and instant feedback. Third, students' learning behavior data could not be effectively collected; learning situation judgments mostly relied on subjective experience, and teaching improvement lacked quantitative basis. Overall, this stage modernized my teaching method but did not fundamentally change the one-way transmission mode and cannot achieve "student-oriented" mode of teaching.

2.3 Cloud Class Stage: Building a Smart Teaching Management System

Cloud Class is a smart teaching platform based on mobile phones. It changes my class teaching from simple multimedia show to full-process smart management. The platform integrated resource sending, attendance, class interaction, homework, tests and learning analysis. It forms a complete teaching loop covering pre-class, in-class, and post-class, which greatly improved the refinement level of teaching management.

In term of teaching organization, teachers can upload courseware, exercises, reading materials and short videos to the platform. Students can preview and review at any time, without time and space limits. In class management, Cloud Class has quick attendance ways like location check and one-click check-in, which avoid cheating and save much class time. In class interaction, functions like quick answer, voting, discussion and brainstorming let all students take part, make class more active and reduce silence. In assessment, objective questions are graded by the system automatically, subjective questions can be marked online, and scores are counted automatically, forming a complete process evaluation system. In a word, Cloud Class changes teaching management from rough manual work to digital work, and provides a good platform for mixed teaching.

What is more, Cloud Class played a very significant role assisting my teaching during the Pandemic Covid-19 period, when me and my students had to stay at home with internet as the only way connecting us. Long distance teaching set even higher requirements and needed better supportive platform. At that period of time, Cloud Class helped solve most of my teaching headaches. For instance, I could recorded my lecture before my class and uploaded it to the platform. Many exercises, reading materials and short videos could be uploaded to the platform as well. A student would not feel anxious when she/he missed one of my lectures for a medical check, for example, because she/he knew when she/he was connected to the internet, she/he would view the lecture as many times as she/he wanted and did the home assignment accordingly.

2.4 Rain Classroom Stage: Precise Teaching with Data

Rain Classroom works as a PPT plug-in. It mixes smart teaching functions with common courseware, paying attention to quick feedback, full-process data and precise teaching. It works well with Cloud Class and makes smart teaching more detailed.

Before class, teachers send preview materials and exercises. The system records students' reading time, page turning and answer results. Teachers can know students' preview situation and weak points before class, and teach according to students' needs. In class, teachers can send questions at any time; students answer with mobile phones, and data is shown at once. Teachers explain difficult points with low correct rates immediately. Bullet screens and anonymous questions make students less nervous, and class more open. After class, the system makes learning reports for class and each student, showing knowledge mastery, wrong questions and learning time, which helps layered teaching and personal guidance.

Rain Classroom is easy to use and matches PPT well, so it is simple for teachers to use smart teaching. It helps classes become truly data-based, flexible, precise and efficient. However, I only have used this platform since last semester. Although previous training has laid a relatively solid theoretical foundation for me, I still lack practical experience and struggle to learn more every day. The following is some of my gains in teaching and researching from using the two platforms.

3. How Cloud Class and Rain Classroom Help Classroom Teaching

3.1 Making Teaching Easier and Improving Class Efficiency

Cloud Class and Rain Classroom use digital ways to finish much repeated work, and reduce my extra teaching work greatly. Attendance, homework collection, checking and scoring are done by the system automatically, saving much time for teachers. Teachers can spend more energy on designing lessons, analyzing learning and teaching key points. A case in point is the composition marking function of Cloud Classroom, which optimizes teaching links, promotes interactive feedback and effectively boosts the quality and effectiveness of college English writing teaching.

At the same time, online resources and self-study before and after class change classes from "filling knowledge" to "solving problems", making class structure tighter and more efficient.

3.2 Changing Teacher-Student Communication and Making Students More Active

Traditional class communication only includes a few students, and most students do not join in. Cloud Class has quick answer, voting and discussion. Rain Classroom has bullet screens, real-time questions and anonymous questions. All these make full and continuous communication possible. Students change from listening passively to joining actively and giving feedback quickly, so they take part in class more and learn harder. Different communication ways also make students more interested in learning, reduce anxieties in class, improve communication between teachers and students, and build a more open and democratic class environment.

3.3 Collecting Learning Data and Helping Precise Teaching

The most important value of these two platforms is collecting full-process learning data and showing it clearly. Cloud Class records general data such as attendance, resource browsing, interaction times, homework quality and test scores. Rain Class records more detailed behavior data, such as time on each page, answer speed, wrong types and knowledge mastery.

With these data, teachers can know clearly how well students understand, change teaching speed and difficulty in time, help students who fall behind, and give more tasks to good students. This is really personal teaching, and ends the "same for all" way in traditional teaching.

3.4 Building Different Evaluation Systems and Forming a Complete Teaching Cycle

Smart teaching platforms support both process evaluation and final evaluation. They mix attendance, class performance, homework, tests and discussion into total scores, making evaluation more complete, objective and fair. At the same time, learning data help teachers reflect on teaching, find problems in teaching design, improve teaching content and methods continuously, and form a cycle of "design – practice – feedback – improve" to make teaching quality better steadily.

4. How Cloud Class and Rain Classroom Support Educational Research

These two platforms certainly help to support my educational research. First, Scientific education research needs real, continuous and traceable data. Traditional research mainly used questionnaires, interviews and test scores, which cost much time and energy and are easily influenced by subjective ideas. Now, things are totally different. For instance, with data support of the two platforms, I can easily and clearly know the students who are actively participate into my class and those who never answer questions or participate into group work. The learning data collected by Cloud Class and Rain Classroom in daily teaching are objective, real-time, with large samples and little interference. They provide high-quality data for practical research.

Second, the use of smart teaching tools brings many useful research topics, such as mixed teaching models, precise teaching with data, smart class interaction, process evaluation and factors that influence students' learning engagement. These topics come from real class situations, focusing on real problems, and avoid the separation between research and teaching.

Third, smart teaching platforms is a testing ground for teaching reform. When teachers use flipped classroom, mixed teaching and exploratory learning through Cloud Class and Rain Classroom, they can collect data continuously, summarize methods, gain experience and form reusable teaching reform examples. These practical results can be turned into research papers, teaching projects, teaching awards and course construction achievements, greatly improving the quality and use value of research results.

Last but not the least, Cloud Class and Rain Classroom build a bridge between teaching and research: find problems in teaching, do research with data, and use results to improve teaching, forming a good cycle. In this process, teachers' data analysis, research and teaching design skills improve at the same time.

5. Conclusion

Reviewing my teaching journey from blackboards and projectors to PPT, Cloud Class and Rain Classroom, the change of teaching tools is not only technology update, but also complete change of teaching ideas, class structure, teacher-student relationship and evaluation systems. The traditional teaching stage focused on knowledge transmission and teacher dominance; the PPT stage realized visualized teaching presentation; Cloud Class and Rain Classroom further promoted teaching toward intelligent management, data-based decision-making, and precise before class, during class and after class practice.

The two platforms of Cloud Class and Rain Classroom improve teaching process, enrich communication, perfect evaluation and realize personal teaching, raising efficiency and quality greatly. In research, regular learning data support practical research, widen research eyes, strengthen practical direction and deepen the integration of teaching and research, providing new paths for teachers' professional development.

In the future, with the development of AI, big data and learning analysis, smart teaching will become more personal, smart and adaptive. As front-line teachers, I should follow the development of educational information, use smart teaching tools properly, do research on real problems based on class practice, improve teaching and research skills through reflection and creation, and improve talent training quality with the coordinated development of teaching and research.

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