

Teaching Methods and Curriculum Design in Higher Education

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Abstract. This research aims to explore the significance of teaching methods and curriculum design in college education. It looks into how different teaching approaches and course structures impact students' learning and engagement. Firstly, it compares traditional and modern teaching methods to see how they affect learning and their applicability across subjects. Secondly, it investigates both traditional and innovative course designs, analyzing their influence on student engagement among different groups. Additionally, it delves into how innovative course design can address the needs of modern higher education and improve student engagement and learning outcomes. Lastly, it suggests ways to encourage innovation in teaching methods and curriculum design, stressing their importance for student learning, and proposes future research and educational policies to enhance the adaptability of the education system.

Modern teaching methods prioritize students' autonomy, fostering innovative thinking, while traditional methods emphasize systematic teaching, facilitating gradual knowledge acquisition. Innovative course designs, compared to traditional ones, create a more positive learning atmosphere, foster closer teacherstudent bonds, blend online and offline elements, and feature open and engaging content, enhancing student participation and improving learning outcomes. Therefore, it is important to move the curriculum design course design time forward to advance at the same time as the theory course. Following the principles of open-ended questions and real-life situations, students are guided to combine their personal interests in choosing topics within the scope of preset course themes, and strive to be close to reality and innovative. A progressive problemsolving approach is adopted, and a system of phased reporting and seminars is established to ensure effective interaction between teachers and students and to realize a healthy rolling of the learning environment. Follow the principle of developmental assessment, encourage innovative thinking, and stimulate student participation through continuous, multi-dimensional performance assessment. Integrate multiple teaching methods and use multiple teaching tools to ultimately ensure that the course design achieves the desired results of innovation orientation.

Keywords: Teaching method, curriculum design, higher education

1 Introduction

Education plays a useful role in building up a person and societal progress, and in this regard, the rising knowledge-based occupations make education more critical than before. The way students learn and are engaged with their learning content and the methods are chosen by higher education practitioners determines whether they can gain knowledge, become creative and have a conscious approach to social issues. I will be researching the negative or positive influence of various teaching approaches and course structures on student learning and their engagement with education, and also evaluating alternatives for enhancing quality of higher education. A teaching method are not just a transferring knowledge from one person to another; teaching methods construct a model of learning. Old-fashioned classrooms lingered on as the lecture method must be replaced by different organization that can accommodate learning of modern pupils. Modern teaching tools, which include problem-based learning, teamwork initiatives, and experiential learning, try to efficiently bring about the independence of students and the mastery of skills. Curriculum design is the basis for teaching and learning, and it is a resourceful standard for engaging learners and raising the quality of achievements. While conventional curriculums place emphasis on knowledge transfer, Hanging on the picture above me are historical events explaining human impact on Earth. As I read through these timelines, I am filled with awe and humility. Amidst growing competition, learning requirements, and shifts in course delivery, higher education institutions must be committed to enhancing the learning outcomes of their students by upgrading teaching strategies and course designs. The research study will strive to measure the influence of various models of teaching, as well as different course structures, on retention rates of students and effectiveness of student engagement in learning. Also, it will focus on the strategies of the development, implementation and creates of new programmes that brings sustainability of the modern higher education. The students will be studying the efficacy of different teaching methods and courses designs and they will be leaving behind their contribution to a discussion on the best education practices that help students enter the 21st century confident and prepared. Specific research questions include:

- 1. How do different teaching methods affect students' learning outcomes?
- 2. How do different course designs vary in their impact on student engagement?
- 3. How can innovative programs be designed and implemented to promote students' learning effectiveness and engagement?

By answering the above questions, this study aims to provide theoretical support and practical reference for improving the quality of higher education and educational and teaching reform.

2 The Impact of Different Teaching Methods on Students' Learning Outcomes

The Soviet educator Kalinin noted that having knowledge does not mean of necessity that one can be a good teacher; only in a case when someone has mastered the subject and knows how to use the information wisely, would it be possible to impart knowledge successfully (Kalinin, n.d.). With the advancement of science and technology, students in universities have a wide range of learning resources, hence, setting higher standard for quality of teachers and techniques that they use¹² (Wang & Chen, 2017). Traditional teaching methods that concentrate on the teacher, textbooks and the classroom provide the most important advantage of systematic approach which allows maintaining structured curriculum and syllabus that leads to progressive learning. What is more, by means of live teaching goers professors may insidiously influence students by what they are used to say and what they are used to do.

But the traditional approach has its disadvantages, since it usually makes students passive recipients of knowledge, which reduces their creativity and creates a classroom atmosphere that is not dynamic¹⁵ (Zhao, W. et al., 2024), undermining their want to learn and enthusiasm¹² (Wang & Chen, 2017). Due to the developments of science, technology and big data, contemporary learning methods like MOOCs and flipped classrooms came into the picture. The methods combine images, animation, sound, color, and text into an easy and of repeatability platform that extends the benefits of conventional teaching with modern attributes.

Modern teaching methods are focused on the student-centered approach which requires the student's central role and the entire initiative, independence, and interest in learning¹² (Wang & Chen, 2017). Such methods are intended to teach students how to study and to develop their ability to learn on their own and research the information in question. But, efficiency of modern teaching techniques mostly depends on the students' intention of self-preparation or volumes of revision during the class, which can differ a lot among people. Some students find it difficult to finish the course contents or study by themselves which emphasizes the necessity of the teacher's help and assistance in the class.

All in all, although contemporary teaching methods possess a range of advantages that traditional approaches lack, their effectiveness depends on the student's involvement and the teachers' ability to help and support. Consequently, a blended approach that integrates features of both traditional and innovative teaching approaches can work best in enhancing student learning results and promoting a lively and interactive educational atmosphere.y out assignments such as practice and internship as a way to consolidate what they have learned. The contemporary approach to teaching involves students preparing before class, noting down their questions and challenges, addressing these concerns during class based on the teacher's instruction, and reinforcing and enhancing their understanding after class. In the classroom, students are encouraged to learn not only what they already comprehend but also what they find puzzling. Let students be the main body of learning and teachers be the dominant ones in teaching, so that students can personally integrate themselves into the knowledge points and have discussions between students and teachers³ (Gong, 2020).

The choice of teaching methods in different academic areas is crucial as it influences the efficiency and depth of learning by students. In Mathematics, does teaching by traditional methods often focused on the explanation and derivation of mathematical formulas, which is good for the transmission of basic concepts. On the other hand, modern teaching styles like flipped or case-based learning allow students to practice concepts and solve problems very often within the classroom setting and therefore improve their practical skills and understanding.

Traditional approaches of teaching in the field of linguistics which focus on language explanation may help students to master grammar and vocabulary. On the other hand, contemporary teaching techniques give preference to the use of multimedia resources and language practice to help develop listening and communication skills. This method realizes the significance of practical implication in language learning and intends to offer students the experience with authentic, context-full situations.

Science teaching commonly combines classical experimental demonstrations with theoretical explanations to aid in understanding scientific principles and experimental procedures. On the other hand, present teaching techniques take advantage of simulation software and virtual experiments to provide a wider variety of experimental experiences and to promote interactive learning. Such method provides students with an opportunity to investigate scientific principles in a more interesting and interactive way, therefore, improving comprehension of the subject. In social studies, the traditional approaches to teaching give students the needed background information and narrative of historical and geographical events. Nowadays, case studies, role-playing, and field experiments are used to engage students and develop their analytical and critical thinking skills. Active learning provides students with the opportunity to put the knowledge that they have acquired to use in real-life scenario, which leads to a more detailed understanding of the social problems. Last but not least, traditional teaching approaches in the arts, especially demonstration and explanation techniques, help students to achieve mastery level of fundamental skills involving drawing, painting, and playing of musical instruments. Unlike classical teaching, contemporary approaches put emphasis on creative inspiration and independent exercises which allow students developing their own style and experimenting in the artistic world. This method acknowledges the value of creativity and self-expression in art and seeks to enable learners to discover their own individual art style.

To summarize, teaching methods in different subject areas need to be flexibly selected and combined according to the characteristics of the subjects and the needs of the students in order to achieve better teaching results.

3 The Impact of Course Design on Students' Engagement

As innovation has become the core driving force of social development, how to strengthen the cultivation of innovation ability in undergraduate education has become a realistic problem that institutions of higher education must seriously deal with. Studies have shown that innovation ability can be cultivated, and practical teaching is an important means of innovation ability cultivation⁸ (Meng, 2018).

Course design is one of the most important forms of practical teaching in undergraduate programs, which is usually paired with a core theoretical course in the major⁵ (Krane, N.K.&Gibson, J.W., 2022), and is conducted as a 1-week (or 2-3-week in some cases) practical session after the theoretical course is completed. The course design usually adopts a project-driven teaching method, i.e., students are required to undertake a design task that is oriented to a specific problem, and through the comprehensive application of the theories and knowledge of the course and other prerequisite courses, complete and submit the final design work¹⁶ (Zheng, 2022).

On the surface, project-driven teaching method is one of the typical modes of research learning, and research learning is recognized as an important way to cultivate students' innovative ability, so the course design adopting project-driven teaching method seems to be naturally innovation-oriented. However, in the actual teaching process, most of the traditional curriculum design has the following problems: 1. the practical course content setting is not systematic, design and comprehensive. 2. the organizational form and classroom teaching mode is single. 3. the assessment method is not perfect enough and it is difficult to realize the effective process control. (Li et al, 2020) In traditional course design, problems are often well-structured, with clear solutions and known conditions. Often, real-world problems are simplified so that students can understand and apply the knowledge more quickly. Students are usually in situations where they work independently on tasks and lack discussion and collaboration with others, while course designs are often completed in a shorter period of time and students are required to submit their final work within a limited period of time. Evaluation methods are mainly based on the final work submitted by students and emphasize the correct application of theories or tools. In contrast, in innovative course design, problems are often characterized by poor structure, ambiguity, and unclear solutions, requiring students to use their initiative to make multiple attempts. In addition, innovative course design focuses on real-world problems that stimulate students to think about and explore real-world situations. Students work together to solve problems through teamwork and progressively advance the learning process in a cyclical learning environment that emphasizes understanding, reflection, and revision. Assessment methods focus on the effectiveness of student learning and individualized responses during the problemsolving process, emphasizing the quality of the learning process and the value of personal development.

Student engagement is crucial for students' involvement in their education and has important implications for managing higher education. It includes actively participating in class discussions, finishing tasks, working in groups, joining online discussions, and more. It's not just about what happens in class but also extends to activities beyond it. This engagement greatly impacts students' learning experiences and results¹³ (Zhang & Cui, 2023). Factors affecting student engagement include educational environment and climate, technology and platform support, instructor-student relationship, and course design and content. Positive learning environments and supportive educational institutions can stimulate students' interest in learning and increase their engagement; easy-to-use online learning platforms and diverse instructional tools can provide technical support and enhance students' engagement in virtual learning; intimate teacher-student relationships and positive teacher-student interaction styles can build students' sense of

trust and engagement; and interesting and practical course design and content can attract students' interests and stimulate their learning motivations, which in turn increases students' engagement. These elements interact to shape students' engagement and learning results⁷ (Liu, 2023). Innovative course designs create a positive learning atmosphere, foster closer teacher-student relationships, blend online and offline approaches, and offer more engaging and open content. This innovative approach helps boost student engagement and enhances overall learning effectiveness¹⁰ (Pratiwi, D.I. et al.).

Various course designs affect the engagement of diverse university student groups differently. For highly specialized and research-oriented student groups, such as science or engineering students or graduate students, focusing on the depth and specialization of course design can attract their interest and increase their participation. The use of case studies, experimental research, and other teaching activities that are close to the real world can stimulate their enthusiasm for learning and increase their participation. For liberal arts or interdisciplinary students, they may pay more attention to the inspirational and exploratory nature of the course design, so the adoption of a highly discussable and discursive course design can stimulate their thinking and increase their participation. As for student groups with strong vocational and practical requirements, such as engineering technology or vocational skills training students, a curriculum design that focuses on strong practicality and high alignment with vocational needs can increase their motivation and participation. To summarize, designing different types of course contents and teaching activities according to the characteristics and needs of different university student groups can better improve their learning participation and learning effect.

4 Innovative Curriculum Design and the Needs of Modern Higher Education

In higher education, instead of only developing, now it is moving towards promoting a smart development that is of a high quality. The major theme now is shifting from measuring just quantity to achieving quality and there is an emphasis on creating innovative work even amid these quality improvement constraints. Knowing the ways of reform and innovation is paramount to the process of that inner machine, which vehicles colleges and universities' innovation and development. This renovation is a critical factor in revamping the talent cultivation, the scientific research and social service within the higher education system like Chinese colleges and universities, so the development of these two areas can get a positive track¹⁴ (Zhao & Li, 2023).

Curriculum innovation is the very key that fits with the requirements of modern higher education as well as in the transition of developing from simple growth into the sustainability. The focus of higher education on quality enhancement within innovation is increasing, and this has made curriculum design, as an effective way to ignite schools' internal momentum, a vital aspect within such institutions. The adoption of various transferable teaching methods, collaboration between disciplines, and participatory learning improves teaching experience and expands students' learning horizons. Moreover, it encourages diversity and inclusivity, expanding the possibilities for tailored

learning that is suitable for students from diverse backgrounds and areas of interest. Universities that embrace innovation in that way enrich their impact on society via involvement of new technologies, improvement of practical skills and the integration of research with teaching, thus synthesizing the full picture of interests of talent cultivation and scientific research. All together, they create the demand for colleges and universities to be in a sustainable pass through. of high-quality development, shifting from a focus on quantity to a focus on quality.

To sum up, it is important to optimize the innovative course design. In order to optimize the innovative course design, we can take a series of measures. Firstly, the time of course design is moved forward to be promoted at the same time as the theoretical courses to ensure that students can fully devote themselves to research learning and overcome the time constraints. Secondly, following the principles of open-ended questions and real situations, students are guided to combine their personal interests to select topics within the preset course themes, and strive to be close to reality and innovative. Thirdly, a progressive problem-solving approach is adopted, and a system of phased reporting and seminars is established to ensure effective interaction between teachers and students and to realize a healthy rolling of the learning environment. Finally, following the principle of developmental evaluation, encouraging innovative thinking, and stimulating students' enthusiasm for participation through continuous, multi-dimensional performance evaluation, ultimately ensuring that the course design achieves the desired effect of innovation orientation. Through these optimization measures, we can better meet the needs of modern higher education and cultivate excellent talents with innovative spirit and practical ability.

5 Strategies and Measures to Promote Teaching Methods and Curriculum Design

In today's changing education scene, it's crucial to introduce new teaching methods and curriculum designs to help students succeed in the future. This article proposes an idea of innovation regarding education quality enhancement and teaching effectiveness. First of all, the emphasis on student-orientated teaching helps, as the lessons must be adapted to the individual students' needs and students' activity should be engaged. Approaches like project-based and problem-based learning prove their beneficial for giving students an opportunity to practice and think critically. Next, a combination of teaching methods including incorporated techniques like aforementioned blended learning and flipped classrooms to make teaching more productively resourceful. Lastly, the tangible learning which involves undertaking experiments and experiencing the real world helps them to build their problem-solving expertise. Through customized learning under adaptive approach and mentorship, the diverse learning demands are well catered for in an efficient way. Now, the last but not the least, is to stimulate creative thinking as well as entrepreneurships via competitions and interdisciplinary work thus paving the way for future success of students. Secondly, the means of giving feedback and getting better at teaching by having evaluation and trainings as a package makes education updated. Through these strategies, teachers can cultivate creativity,

increase educational effectiveness, and build a learning environment tailored to giving students a chance to flourish.

The directions and proposals for educational future are wide-ranging and are comprised from many aspects. Upgrading education will be trying using AI and virtual reality to get more pleasant learning conditions⁴ (Hassan, A. et al., 2023). Collaborative learning across subjects will help students solve complex problems. It's important to develop global awareness¹¹ (Sorensen, T.B., 2023) and communication skills for interacting with diverse groups² (Filho, W.L. & Trevisan et al., 2024). Education should also teach social responsibility¹ (Alfirević, N. et al., 2023) and sustainability through hands-on projects. Finally, professional development and leadership development of teachers is a key factor in education reform. Establishing a continuous teacher training mechanism⁹ (Nguyen, N.T.L. & Gondwe, F., 2024) and supporting innovative education leadership teams will drive the education system towards greater flexibility and adaptability. These directions and recommendations will help the education community to better meet the challenges and opportunities of the future and to promote continuous innovation and improvement in teaching methods and curriculum design.

6 Conclusions

The article answers three main questions: how do different teaching methods affect student learning effectiveness, how do different course designs differ in their impact on student engagement and how can innovative courses be designed and implemented to promote student learning effectiveness and engagement. Modern teaching methods pay more attention to student autonomy and can improve students' innovative thinking; traditional teaching focuses on the systematic nature of teaching, which enables students to learn knowledge systematically and progressively. Innovative course design compared to traditional course design learning environment is more positive, teacher-student relationship is more intimate, online and offline combination, and the course content is more open and interesting, which is conducive to improving students' learning participation and further improve the learning effectiveness. Therefore, it is necessary to move the design time of the curriculum design course forward to the same time as the theory course. Following the principles of open-ended problems and real situations, students are guided to choose topics within the pre-determined course themes in accordance with their personal interests, and strive to be close to reality and innovative. A progressive problem-solving approach is adopted, and a system of phased reporting and seminars is established to ensure effective interaction between teachers and students and to realize a healthy rolling of the learning environment. Follow the principle of developmental assessment, encourage innovative thinking, and stimulate student participation through continuous, multi-dimensional performance assessment. Integrate multiple teaching methods and use multiple teaching tools to ultimately ensure that the course design achieves the desired results of innovation orientation.

How teachers instruct and the topics they cover profoundly influence how students learn and engage. Effective teaching methods can spark curiosity, boost motivation,

and encourage active participation. Thoughtful curriculum planning builds a cohesive learning framework, establishing a strong foundation and promoting critical thinking. It's vital for educators to modernize teaching approaches and curriculum to enrich learning, foster self-directed study, and stimulate curiosity. Looking ahead, education should prioritize technology integration, interdisciplinary skill development, global awareness, cultural understanding, social responsibility, sustainability education, and the enhancement of teacher training and leadership abilities. These directions and recommendations will help drive the education system towards greater flexibility, innovation and responsiveness to future needs.

References

- 1. Alfirević, N., Arslanagić-Kalajdžić, M. & Lep, Ž. (2023). The role of higher education and civic involvement in converting young adults' social responsibility to prosocial behavior. Sci Rep 13, 2559. https://doi.org/10.1038/s41598-023-29562-4
- 2. Filho, W.L., Trevisan, L.V., Dinis, M.A.P. et al.(2024). Fostering students' participation in the implementation of the sustainable development goals at higher education institutions. Discov Sustain 5, 22 . https://doi.org/10.1007/s43621-024-00204-7
- 3. Gong, Xuanyi. (2020). Exploration of modern student-centered teaching methods. Examination Weekly (41).,7-8. https://kns.cnki.net/kcms2/article/abstract?v=dKAmn0h-MO-sUMm-
 - G8kZ3jOLXxbaYz5xPs0pius5oJ7YRvkBV4usGcW3561YdVJEghkhxSgahMFgBAmpyz WlcwgmqprKPzUJ0uxJfWe510TEBksVZ2ZQVSReLV6kQxYFWsFHCrY-WgL6o=&uniplatform=NZKPT&language=CHS
- Hassan, A., Elrahman, M.G.S.A., Ali, S.A., Abdulkhaleq, N.M.S., Dahlan, M., Shaker, G. (2023). New Teaching Methods in Universities Using Artificial Intelligence. In: Hamdan, A., Harraf, A., Buallay, A., Arora, P., Alsabatin, H. (eds) From Industry 4.0 to Industry 5.0. Studies in Systems, Decision and Control, vol 470. Springer, Cham. https://doi.org/10.1007/978-3-031-28314-7 60
- Krane, N.K., Gibson, J.W. (2022). Course Design. In: Huggett, K.N., Quesnelle, K.M., Jeffries, W.B. (eds) An Introduction to Medical Teaching. Innovation and Change in Professional Education, vol 20. Springer, Cham. https://doi.org/10.1007/978-3-030-85524-6 16
- Li, X. F., Jiang, H., Sun, W., Zhang S. X. & Fan, H. D. (2020). Exploration on the Teaching Mode of Course Design of Measurement and Control Engineering Based on CDIO. Journal of Higher Education(07),107-110. doi:10.19980/j.cn23-1593/g4.2020.07.035.DOI:10.19980/j.cn23-1593/g4.2020.07.035.
- 7. Liu, B. C. & Shang, R. Z. (2023). Enabling the Modernization of Higher Education with Digitization: A Strategic Perspective on the Digital Transformation of China's Higher Education in the Age of Digital Intelligence. Education and Culture Forum(06),1-10. doi:10.15958/j.cnki.jywhlt.2023.06.001.

- 8. Meng, Z. X. (2018). The Role of Experimental Teaching in the Cultivation of Students' Innovative Ability. Modern University Education(05),92-97.https://kns.cnki.net/kcms2/article/abstract?v=dKAmn0h-MOsoKffQ3KoVx_mFAmOIPc4bbJ5AAutV9u-7oZmj7ylG3DM7i4kMQwMjHOc9cN8n1-IfAUKJOI0FgD-6rPjr2DJ2jkyU48ZfLG9GrLm3M7V0Bq17UbE2fveK_OKHyBMcWcE=&uniplatform=N ZKPT&language=CHS
- 9. Nguyen, N.T.L., Gondwe, F(2024). Concerns of novice teacher educators: a narrative self-study. SN Soc Sci 4, 2 . https://doi.org/10.1007/s43545-023-00803-7
- 10. Pratiwi, D.I., Fitriati, S.W., Yuliasri, I. et al(2024). Flipped classroom with gamified technology and paper-based method for teaching vocabulary. Asian. J. Second. Foreign. Lang. Educ. 9, 1. https://doi.org/10.1186/s40862-023-00222-4
- 11. Sorensen, T.B. (2023). Globalization, Teachers, and Teacher Education: Theories, Themes, and Methodologies. In: Menter, I. (eds) The Palgrave Handbook of Teacher Education Research . Palgrave Macmillan, Cham. https://doi.org/10.1007/978-3-031-16193-3 73
- 12. Wang, Q. & Chen, G. D. (2017). Some Thoughts of Young Teachers about Teaching in Higher Education. Education and Teaching Forum(04),232-234. https://kns.cnki.net/kcms2/article/abstract?v=dKAmn0h-MOsKY5zCabE-JlrOhfVBv2S7vlSikhAHSo4BqgtPbPMUdzmWJaS9bfClj33DE7GLkTMLdAxd9wrQu1rq qUPaIE_pXIKjRCXFX4zX8IqnwSw_gQX4b-IXfN8fxAvoPx-EKlr0=&uniplat-form=NZKPT&language=CHS
- 13. Zhang, Y. C. & Cui Y. W. (2023). Analysis of differences in student participation in catechism courses in Chinese universities[J/OL]. China Education Technology Equipment:1-4.http://kns.cnki.net/kcms/detail/11.4754.t.20221019.1044.003.html
- 14. Zhao, T. T. & Li, G. P. (2023). From connotation to high quality: the evolution and turn of China's higher education development policy. Higher Education Research(05),8-18.https://kns.cnki.net/kcms2/article/abstract?v=dKAmn0h-MOuNSIWXH-mezebfP9CY-oaFXeAwaO8zOCNkJ7v-UVSkN3-aMxtEJLc_0g9W6wACI44__9g-PxZuLi5nBy2EttRMtE6zaQpA5Q76oTqS-P_O-VCwOH1VneB9BkpXvz8SRSZ8=&uniplatform=NZKPT&language=CHS
- Zhao, W., Cao, Y., Hu, L. et al. (2024). A randomized controlled trial comparison of PTEBL and traditional teaching methods in "Stop the Bleed" training. BMC Med Educ 24, 462. https://doi.org/10.1186/s12909-024-05457-4
- 16. Zheng, W. J.(2022). Optimization of Innovation-Oriented Curriculum Design Teaching Mode. Innovation and Entrepreneurship Education(05),113-118.https://kns.cnki.net/kcms2/article/abstract?v=dKAmn0h-MOu-ZHMYWrFi8ETSQIKAV-T9WNotIVLBOLwMQI6HRanmMZUxlg-QbUQr-IJT3IRzn1lHwqsS_-fKscnmJzfhPQ-ugXD8bmjHO0mNEngtQN9EJg-DTwdTUIS0za dNzCMA3s=&uniplatform=NZKPT&language=CHS

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