

Improving University Students' Classroom Learning Outcomes through Multi-dimensional Enhancement Methods Based on the Knowledge-Attitude-Practice Model

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Abstract: The enhancement of classroom learning outcomes plays a crucial role in the higher education reform currently underway in China. Despite numerous improvement strategies proposed and examined in previous research, a comprehensive, multi-dimensional approach remains lacking in this field. In response to this gap, this study emphasizes the theoretical significance of the knowledge-attitude-practice model for implementing a holistic enhancement of classroom teaching and learning, specifically within a social policy curriculum. Three distinct phases of improvement were carried out. Firstly, the alignment of course content with students' individual interests and concerns. Secondly, the facilitation of practice-oriented learning through novel teaching methodologies. Lastly, the realization of comprehensive teaching and learning outcomes through reflection and extracurricular practices. The study concludes by presenting the contributions and constraints of the research.

Keywords: Learning outcomes, Knowledge-attitude-practice, Higher education

1. Introduction

University classroom instruction serves as the fundamental component of fostering talent, carrying indispensable significance^[1]. It stands as the primary avenue for students to amass knowledge, broaden perspectives, enhance competencies, and foster critical thinking. Furthermore, it plays a pivotal role in invigorating students' cognitive faculties, nurturing ingenuity, and honing practical skills. Nevertheless, contemporary university classroom teaching in China faces various challenges. Some academic settings persist in conventional pedagogical practices, lacking the interactive ambiance conducive to exploration and innovation. Instructional focus tends to be confined to theoretical knowledge, overlooking the holistic development of students' character and practical proficiencies. Teaching methodologies often remain rudimentary, devoid of innovative approaches and diversity. This lack of engaging instructional methods dampens students' enthusiasm, leading to instances of truancy that compromise the efficacy of classroom learning. In certain instances, educators continue to be mere purveyors of knowledge rather than adept guides and facilitators of student learning. Furthermore, practical instruction frequently receives inadequate emphasis in comparison to theoretical teaching, resulting in insufficient cultivation of students' practical and innovative skills.

Colleges and universities face challenges that necessitate a comprehensive reform of classroom teaching, the modernization of educational ideologies, the introduction of innovative teaching methodologies, the enhancement of practical teaching components, the refinement of evaluation frameworks, and the augmentation of educators' pedagogical skills. These measures aim to elevate the standards of classroom instruction and cultivate high-caliber individuals capable of meeting the demands of societal progress. Recent scholarly discourse has underscored the pivotal role of restructuring classroom education in academia, with a particular emphasis on bolstering student academic performance, nurturing critical thinking capabilities, and fostering a nuanced understanding of social sciences. These endeavors have concurrently spotlighted the significance of the "Knowledge-Attitude-Practice" (KAP) model^[2]. Notably, a specialized social policy teaching course has been identified as a focal point for enhancement efforts, given its integral role within the field of social science^[3]. This course not only encompasses fundamental sociological principles but also boasts interdisciplinary and cross-functional

applications^[4]. Therefore, refining this course holds promise for advancing university-level classroom instruction in contemporary China, particularly within the realm of social sciences.

2. Literature Review

2.1 Classroom Learning Outcomes and the Improvement Measures of It

Reforming classroom instruction is a crucial element in advancing higher education, as it directly impacts the caliber of personnel preparedness and enhances the overall instructional standards of academic institutions. The strategies aimed at enhancing classroom teaching within tertiary education encompass a diverse range of aspects, including pedagogical philosophy, subject matter, instructional techniques, and assessment methodologies, among others.

Exciting research has identified a variety of strategies to enhance the quality of classroom instruction in higher education institutions. One such approach involves establishing clear learning objectives encompassing knowledge acquisition, skill development, and attitude cultivation, and effectively conveying these objectives to students^[5]. Additionally, optimizing the classroom structure by implementing innovative methods like the “flipped classroom”, shifting traditional teaching to online platforms for self-study, and utilizing in-person class time for interactive activities such as discussions and experiments can enhance student engagement and comprehension^[6]. Moreover, enhancing teacher-student interaction through the use of probing questions, group discussions, and other interactive techniques to stimulate critical thinking, foster student inquiry, provide affirmative feedback, and cultivate a collaborative and inclusive learning environment^[7]. Besides, the incorporation of innovative educational technologies is essential for enhancing teaching methodologies in modern academia. This involves the judicious integration of multimedia and online resources, including video presentations, animations, and other visual aids, to augment instructional material and facilitate diverse learning modalities^[8]. Furthermore, the adoption of tailored teaching approaches, tailored to the individual requirements of students, is imperative to ensure optimal learning outcomes for all learners^[9]. Additionally, strategies such as fostering the creation and utilization of top-tier educational materials, refining credit systems, advocating for research-driven teaching practices, among other initiatives, are instrumental in advancing pedagogical standards^[10].

The integration of these strategies is poised to enhance the caliber and effectiveness of classroom instruction within higher education institutions, thus aligning more closely with the educational requirements of students and the societal standards for skilled individuals. However, prevalent approaches have predominantly concentrated on singular facets of teaching. A comprehensive developmental framework that emphasizes the holistic impact of classroom instruction demands further scholarly scrutiny, a gap that the KAP model stands ready to address.

2.2 The KAP Model and Its Implement in Teaching and Learning

The primary aim of restructuring the social science curriculum, as analyzed within the scope of the KAP model, is to amplify students’ cognitive abilities, shift their mindsets, and consequently influence their behaviors through educational interventions. This theoretical framework accentuates the interrelatedness and influence of knowledge distribution, attitude development, and behavioral adjustments in the sphere of education.

The primary foundation lies in knowledge, emphasizing the critical requirement for the restructuring of social science curriculum to enable students to delve into accurate and comprehensive social science research outcomes and theories^[11]. Prior studies reveal that incorporating case studies, project-based learning, debates, and exercises promoting critical thinking can notably enrich students’ understanding of social science fundamentals and theories^{[12][13][14]}. The effectiveness of acquiring curriculum-related knowledge depends on the consistent revision of material, the organized deployment of educational tasks, and the quality of student engagement within the educational setting^[15].

Attitude, acting as a mediating factor, is identified as a crucial component in the KAP model. Particularly in the field of education, educators play a vital role in guiding the ethical development of their students^[16]. To optimize the effectiveness of social science curricula, it is imperative to prioritize the cultivation of students’ critical thinking skills and their ability to embrace diverse viewpoints. By incorporating interactive teaching methods, such as discussions on societal issues and role-playing activities, students can broaden their understanding of varying perspectives, ultimately fostering a more

positive and inclusive mindset^[17].

The primary aim of KAP is to support behavior modification. Academic studies have confirmed the effectiveness of incorporating social science educational reform to empower students in translating their knowledge and positive attitudes into concrete actions^{[18][19]}. This transition is facilitated through thoughtful teaching strategies, involving engagement in social activities, volunteer work, and community engagement to connect theoretical comprehension with practical implementation^[20]. Furthermore, the utilization of project-based learning, cooperative learning, and other educational methods in curriculum design has been proven to play a crucial role in encouraging behavioral changes in students and improving their practical abilities^{[11][15]}. However, challenges are inevitable in this process, such as balancing the dissemination of knowledge with attitude development, establishing a strong correlation between educational content and students' actual needs, and effectively evaluating the impact of curriculum restructuring^{[16][20]}.

The conclusion drawn is that the restructuring of social science curricula within university environments demands a thorough examination of several pivotal elements. These include the changing responsibilities of instructors, the incorporation of progressive teaching methods, the advantages and challenges of group-based learning, the applicability of course content in practical scenarios, and the effective deployment of educational technology. Following the principles of the KAP model, the revision of social science syllabi in colleges and universities should stress the comprehensive impartation of knowledge, the fostering of favorable mindsets, and the implementation of behavioral modifications in a pragmatic manner.

3. The Operation of Teaching Enhancement Measures Based on the KAP Model

The enhancement of a social policy course for second-year undergraduate students has been chosen for the centerpiece of reform efforts. Central to the restructuring of the selected course is the commitment to an all-encompassing approach to socio-political education, the dissolution of the traditional separation between teaching and learning, and the seamless integration of knowledge transmission, attitude development, and practical skill enhancement within the framework of multi-dimensional classroom teaching improvement.

3.1 From “Knowledge” to “Attitude”: Linking Course Knowledge to Students’ Personal Interests and Concerns

The course’s knowledge content offers practical advantages by bridging students’ daily life experiences with pertinent issues, complimented by key speeches by party and state leaders. This approach fosters student engagement and interest, stimulating a proactive learning attitude. Teaching strategies prioritize student autonomy and curiosity. The inaugural lecture outlines the course’s knowledge framework and key theoretical perspectives, focusing on contemporary issues in China. National policies are integrated throughout, encouraging students to develop a sense of purpose and responsibility.

At the onset of the course, the instructor established the foundational framework and guidelines for the forthcoming presentation sessions in the latter part of the semester. This entailed the implementation of online video lectures and access to scholarly databases, along with the creation of classroom notifications. By leveraging educational resources, students were granted autonomy in the selection of presentation subjects, methodologies, and theoretical discussions. They were further encouraged to choose topics aligning with their personal experiences and interests, thereby mitigating the prescriptive nature of presentation tasks, fostering enthusiasm, and cultivating a positive cycle of engagement and participation.

3.2 From “Attitude” to “Practice”: Promoting Practice-based Learning through Innovative Teaching Activities

The initial focus lies on the organization and structuring of students’ task assignments, transitioning from the basic duality of “speaking-listening” towards the emulation of scholarly dialogues. This evolution leads to the development of a comprehensive identity framework encompassing “speaking-listening-evaluating-practicing”, thus enhancing the complexity and depth of academic interactions. This strategy entails:

The first step involves utilizing random drawing to establish presentation groups to mitigate potential challenges associated with team formation based on personal relationships. Subsequently, each group appointed designated reviewers tasked with providing feedback on the presentations of other groups. The assignment of reviewers for each group occurred at the commencement of the semester. Prior to the presentation, every group was required to submit presentation materials to their assigned reviewers three days in advance. Reviewers were required to formulate 2-3 evaluations for each group, followed by a question-and-answer session post feedback exchange.

Furthermore, to enhance the evaluation process and feedback mechanisms for teaching effectiveness, it is advisable to broaden the channels for gathering student feedback. This was achieved through various means such as making announcements in the classroom, utilizing online teaching tools, like Tencent voting and Feishu, for feedback collection. Students were encouraged to provide their evaluations on the presentations of each group, and invited to anonymously rate the performances. Employing diverse methods helped engage students in the role of “reviewers” and foster active attitudes towards learning.

Lastly, the initiative extended beyond the confines of the classroom to intertwine final course assignments with presentations. Students were motivated to refine a specific research question related to their presentation topic, delve deeper into pertinent literature, draft research proposals, thereby initiating new research endeavors. This approach was further expanded to encompass undergraduate innovation projects, annual papers, and independent academic compositions as additional learning achievements.

3.3 Reflection and Out-side Classroom Practices: the Cut-through of Multi-dimensional Teaching and Learning Outcomes

Integrating the three dimensions of knowledge, attitude, and behavior in college teaching is a crucial strategy for achieving the objective of comprehensive education. Reflective learning and social practice play significant roles in augmenting the efficacy of implemented enhancement approaches.

In the selected course, students were prompted to partake in introspection through various means such as diaries, learning journals, or reflection reports, enabling them to contemplate their individual learning procedures, attitudes, and behaviors. The educator employed case studies as a reflective instrument to assist students in scrutinizing cases and formulating their own perceptions, thereby fostering the cultivation of critical thinking and reflective learning among the students. Moreover, students were urged to engage in reflective writing exercises like composing essays, reports, or reflective segments within projects to enhance their comprehension and contemplation of the subject matter. Additionally, the instructor facilitated the formulation of personal development plans by students, encompassing short- and long-term objectives, and routinely assessed and ruminated on the attainment of these goals.

The integration of classroom teaching and learning with students’ social practice offers a valuable avenue to enrich the multifaceted impact of educational activities. The study implemented two primary forms of practice as part of an enhancement experiment. Firstly, students were urged to engage in project-based learning endeavors beyond the classroom setting, such as involvement in summer internships, student-led innovation projects, case study competitions, and similar initiatives. Through these practical experiences, students tackled authentic challenges, fostering teamwork and honing project management proficiencies. Secondly, students were encouraged to partake in various social practice engagements. The course teacher and the academic department facilitated increased opportunities for students to participate in community service, volunteer programs, and other social activities aligned with the course content. By actively engaging in these practices, the theoretical foundations and practical applications of classroom instruction were synergistically reinforced, both within and outside traditional academic settings. The implementation of multi-dimensional enhancement methods was shown in Figure 1.

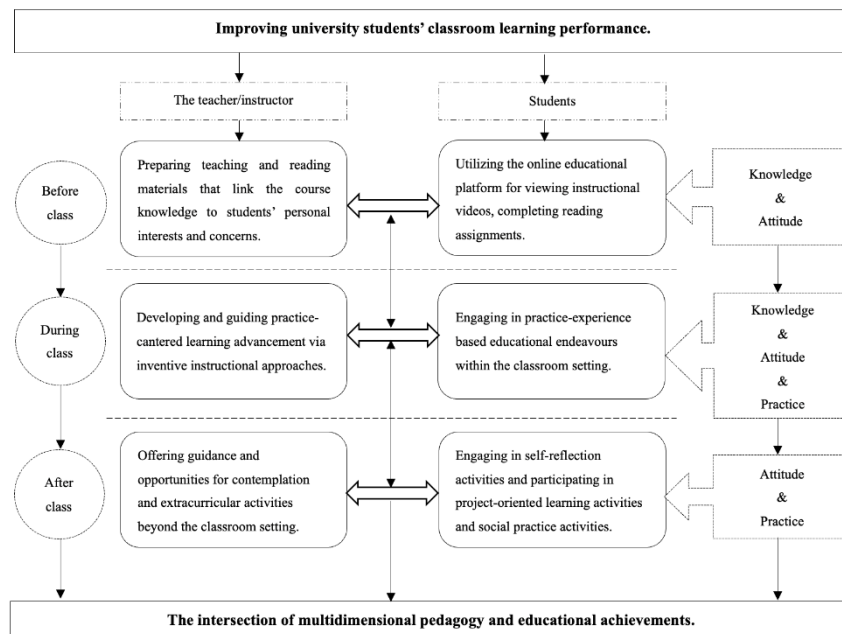


Figure 1: The implementation of multi-dimensional enhancement methods.

4. Conclusion

The enhancement of classroom teaching and learning exerts a significant influence on elevating the caliber of higher education. It serves as a crucial method to actualize the objective of holistic education by amalgamating the facets of knowledge, attitude, and conduct within collegiate teaching. The current research furnishes a practical illustration predicated on enhancement initiatives in a social policy course, encompassing a cohort exceeding one hundred students. As per student evaluations and instructor observations, student engagement, participation, and activity levels exhibit marked prominence in both instructional and practical settings, alongside a notable enthusiasm for autonomous learning and discourse. Several student cohorts have taken initiative to conduct investigative research undertakings stemming from classroom presentations, culminating in student-led innovation projects or scholarly papers. This pedagogical model demonstrates a certain level of scalability. This case study imparts valuable insights for advancing classroom teaching methodologies, particularly within the realm of social sciences.

The research, nonetheless, exhibits specific constraints more apt for instruction in small-class settings, guaranteeing the effective execution of each teaching task. In instances where the student count surpasses fifty, the deficiency in interaction can be mitigated through the utilization of online resources like classroom alerts, albeit necessitating instructors to promptly disseminate interactive tasks before and after sessions and manage feedback data.

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References

- [1] Hu G, Duan Y. Questioning and responding in the classroom: A cross-disciplinary study of the effects of instructional mediums in academic subjects at a Chinese university[J]. *International Journal of Bilingual Education and Bilingualism*, 2019, 22(3): 303-321.
- [2] Salas-Zapata W A, Ríos-Osorio L A, Cardona-Arias J A. Knowledge, attitudes and practices of sustainability: systematic review 1990–2016[J]. *Journal of Teacher Education for Sustainability*, 2018, 20(1): 46-63.

- [3] Pinker R. *Social Theory and Social Policy*[M]. London: Heinemann Educational Books, 2022.
- [4] Alcock P, Haux T, May M, Wright S, editors. *The Student's Companion to Social Policy*[M]. Oxford: Wiley Blackwell, 2016.
- [5] Hyun J, Ediger R, Lee D. *Students' Satisfaction on Their Learning Process in Active Learning and Traditional Classrooms*[J]. *International Journal of Teaching and Learning in Higher Education*, 2017, 29(1): 108-118.
- [6] Akçayır G, Akçayır M. *The flipped classroom: A review of its advantages and challenges*[J]. *Computers & Education*, 2018, 126: 334-345.
- [7] Pianta R C. *Teacher-student interactions: Measurement, impacts, improvement, and policy*[M]// *Teachers, teaching, and reform*. Routledge, 2017: 75-93.
- [8] Wali A, Popal A. *The emerging issues and impacts of technology in classroom learning*[J]. *International Journal of Emerging Technologies in Learning (iJET)*, 2020, 15(15): 237-245.
- [9] Wanner T, Palmer E. *Personalising learning: Exploring student and teacher perceptions about flexible learning and assessment in a flipped university course*[J]. *Computers & Education*, 2015, 88: 354-369.
- [10] Niam K, Huda M N, Sulanam S, et al. *Knowledge Management Practices in Enhancing Academic Output: A Study of Indonesian Islamic Universities*[J]. *Uhumuna*, 2023, 27(2): 735-761.
- [11] Handrianto C, Rahman M A. *Project based learning: a review of literature on its outcomes and implementation issues*[J]. *LET: Linguistics, Literature and English Teaching Journal*, 2018, 8(2): 110-129.
- [12] Mahdi O R, Nassar I A, Almuslamani H A I. *The Role of Using Case Studies Method in Improving Students' Critical Thinking Skills in Higher Education*[J]. *International Journal of Higher Education*, 2020, 9(2): 297-308.
- [13] Campbell-Phillips S. *Education and curriculum reform: The impact they have on learning*[J]. *Budapest International Research and Critics in Linguistics and Education (BirLE) Journal*, 2020, 3(2): 1074-1082.
- [14] Lord M. *Group learning capacity: the roles of open-mindedness and shared vision*[J]. *Frontiers in psychology*, 2015, 6: 126905.
- [15] Le H, Janssen J, Wubbels T. *Collaborative learning practices: teacher and student perceived obstacles to effective student collaboration*[J]. *Cambridge Journal of education*, 2018, 48(1): 103-122.
- [16] Rosyad A M, Sudrajat J, Loke S H. *Role of social studies teacher to inculcate student character values*[J]. *International Journal of Science Education and Cultural Studies*, 2022, 1(1): 1-15.
- [17] Islam P, Islam T. *Effectiveness of role play in enhancing the speaking skills of the learners in a large classroom: An investigation of tertiary level students*[J]. *Stamford journal of English*, 2013, 7(1): 218-233.
- [18] Owojori O M, Mulaudzi R, Edokpayi J N. *Student's knowledge, attitude, and perception (KAP) to solid waste management: A survey towards a more circular economy from a rural-based tertiary institution in South Africa*[J]. *Sustainability*, 2022, 14(3): 1310.
- [19] Khurshid F, Ansari U. *Effects of innovative teaching strategies on students' performance*[J]. *Global Journal of Human Social Science Linguistics & Education*, 2012, 12(10): 47-54.
- [20] Weinberg A E, Trott C D, Sample McMeeking L B. *Who produces knowledge? Transforming undergraduate students' views of science through participatory action research*[J]. *Science Education*, 2018, 102(6): 1155-1175.