

Teacher Competence, Classroom Management, and Effectiveness in Applied Universities in Henan: Basis for the Teaching Improvement Program

Shuke Zhou^{1,2*}

¹Office of the Graduate School, Lyceum of the Philippines University Capitol Site, Batangas City 4200, Philippines

²College of Mathematics and Physics, Henan University of Urban Construction, Pingdingshan 467036, Henan Province, China

*Corresponding author: Shuke Zhou, 1294062523@qq.com

Copyright: © 2024 Author(s). This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0), permitting distribution and reproduction in any medium, provided the original work is cited.

Abstract: To improve the teaching quality of local application-oriented undergraduate colleges and universities, this study conducted a survey of teachers in three application-oriented demonstration colleges and universities in Henan Province, and assessed the recognition degree of teachers with different personal backgrounds on the three variable dimensions of teacher competence, classroom management, and teaching effect. The results showed that gender and teaching experience have significant differences in teaching ability, personal attitude, and teaching preparation. Education level has a significant influence on teachers' competence, teacher-student communication, and teaching effect. There was no significant difference in age among the three variables. In addition, there is a significant correlation between the three variables, indicating that the stronger the teacher's ability, the better the classroom management, and the higher the teaching effect. This provides a reliable empirical basis for the teaching improvement plan of applied local colleges and universities.

Keywords: Teacher competence; Classroom management; Effectiveness; Applied universities; Teaching improvement program

Online publication: February 25, 2024

1. Introduction

The quality of undergraduate education in the United States declined sharply in the 1990s. To solve the contradiction between teaching and scientific research, the field of higher education in the United States has conducted extensive theoretical and practical research on teaching and scholarship. It has also organized a series of conferences and research projects on teaching and scholarship, which have had a significant academic influence worldwide. This effort has greatly promoted the exchange and sharing of teaching practices in colleges and universities and has changed the phenomenon of contempt for teaching in American universities. Consequently, the problem of declining quality in undergraduate education has been addressed. In the practice of undergraduate education and teaching research promoted by developed countries, all discussions and actions revolve around the concept of effective

teaching, advocating the importance of students' learning development and outcomes. These practical outcomes of undergraduate education have successfully helped these countries enhance their human capital ^[1].

With the rapid expansion of China's higher education system, many challenges in terms of quality and efficiency have emerged. For instance, due to limitations in teaching resources and inadequate teaching facilities, universities often face issues such as large class sizes and a predominance of collective teaching over small group or individual instruction. Moreover, classroom management is often lacking due to the sheer volume of classes, and there tends to be an imbalance between theoretical learning and practical experience. Teachers often emphasize rote memorization over innovative application of knowledge ^[2].

To address the quality constraints on personnel training amid China's rapid higher education expansion and to draw lessons from developed countries, the Chinese Ministry of Education issued the "Project of Undergraduate Teaching Quality and Teaching Reform in Institutions of Higher Learning" in 2014. This initiative aims to: (1) promote reform and innovation in teaching content, methods, teams, management, and teaching modes in colleges and universities; and (2) foster students' interest and ability for independent innovation.

Currently, international research on teachers' teaching quality focuses primarily on two aspects: individual-level capabilities and specific teaching behaviors during activities. Most studies employ empirical methods and rigorous data analysis to identify and summarize teachers' abilities and behaviors closely associated with teaching. These studies propose strategies to enhance teaching effectiveness ^[3]. While these research findings on teacher ability and behavior provide valuable insights under Western teaching paradigms, they may not fully align with the local teaching context in China. Thus, it is essential to integrate these theories with local practices.

This study, based on the teaching context in Henan Province, employs empirical research methods with the goal of improving teaching. By focusing on fundamental teacher abilities, teacher-student interactions, classroom management, and teaching effectiveness, this paper aims to construct a model of teacher abilities, qualities, and classroom management tailored to local conditions. Through examination of teacher personal development, daily teaching practices, and psychological and cultural factors, this paper proposes appropriate measures to enhance teaching effectiveness. Moreover, it provides guidance for local university management departments in policy formulation and teacher training.

2. Objectives

This study comprehensively analyzed the teacher competence, classroom management, and teaching effectiveness of applied universities in Henan Province. Specifically, it described the profile of university teachers in terms of gender, age, teaching experience, and educational attainment. It aimed to determine teacher competence in teaching, scientific research, and cultivating students' abilities and personal attitudes. Additionally, it assessed classroom management in terms of discipline, teaching and learning, and interpersonal communication between teachers and students. Furthermore, it examined teaching effectiveness concerning teaching preparation, teaching materials, teaching methods, teaching attitude, professional development, and coordination of teaching administration. Finally, it tested for significant differences among response profiles and assessed the significant relationships between the three variables. Ultimately, it proposed a teaching development program for teachers to enhance teaching effectiveness.

3. Methods

3.1. Research design

This study primarily employed quantitative research methods, including literature review and survey research.

Leveraging the convenience and speed of library resources and the Internet, the author extensively gathered and reviewed domestic and foreign literature on classroom teaching. This literature provided a robust theoretical foundation and academic support for the study. Classroom teaching data were primarily collected through the distribution of questionnaires. Mathematical models and statistical software were utilized to objectively describe the factors influencing classroom teaching effectiveness and their relationships.

3.2. Participants

The study utilized the “Questionnaire Star” platform to distribute electronic questionnaires online. Questionnaires were predominantly distributed to teachers at Pingdingshan College, Henan Urban Construction College, and Nanyang Normal University. Researchers randomly distributed questionnaires to a specified number of teachers through the school enterprise WeChat to ensure an equitable distribution of questionnaires across each school. Under the guidance of the statistical advisor from LPU Graduate School, 420 questionnaires were distributed, of which 411 were collected, yielding a collection rate of 97.8%. Among these, 411 were deemed valid.

3.3. Data gathering instrument

The questionnaire encompassed three variables: teacher competence, classroom management, and effectiveness, employing a Likert-4 scale. It was divided into four parts. The first part comprised respondents’ profiles (grade, gender, educational attainment, teaching experience). The second part focused on teacher competence, structured based on the model of teachers’ teaching competence in application-oriented universities ^[4]. It presented an evaluation system across four dimensions: teaching competence, scientific research competence, student cultivation competence, and personal attitude. The third part examined classroom management, encompassing discipline, teaching, learning, and teacher-student communication, drawing from existing questionnaire content and the actual situation of Chinese university classrooms ^[5]. The fourth part encompassed teaching effectiveness, covering teaching preparation, materials and methods, attitudes, professional development, and coordination of teaching administrations. It was derived from existing research content and adapted for this study ^[4].

3.4. Data gathering procedure

This research primarily utilized online platforms for questionnaire creation, distribution, retrieval, and evaluation. Initially, the author engaged in comprehensive communication with the leaders and teachers of the three universities via WeChat and long-distance telephone calls. The purpose and significance of the study were explained, garnering their support and cooperation in completing the questionnaire. Subsequently, the Questionnaire Star platform was employed to create the questionnaire and generate web links for its completion. The author piloted 30 questionnaires, demonstrating satisfactory reliability. A large-scale distribution of questionnaires was then conducted via WeChat and Tencent QQ to selected universities. Finally, the data collection function of Excel was utilized to ensure accuracy. To maintain questionnaire effectiveness, screening was conducted based on set principles. Firstly, a valid questionnaire completion time was set at 120 seconds. Questionnaires completed in less time were deemed invalid. Secondly, if respondents completed the questionnaire multiple times, only the first submission was considered valid.

3.5. Data analysis

Frequency and percentage distributions were employed to describe respondent profiles, while weighted averages and rankings determined teacher competence, classroom management, and effectiveness. Spearman’s rho was utilized to assess significant relationships between the three variables. Likert scales were interpreted as follows: values between 3.50 and 4.00 indicated strong agreement, between 2.50 and 3.49 indicated agreement,

between 1.50 and 2.49 indicated disagreement, and between 1.00 and 1.49 indicated strong disagreement. Furthermore, all data were processed using SPSS version 26.0, with a significance level of 0.05.

3.6. Ethical considerations

Ethical considerations for this study centered on fundamental principles of respect for participants, beneficence, and justice. Informed consent was obtained, and participants and stakeholders will have unrestricted access to the finalized research report. Throughout the study, participants' autonomy and fundamental rights were respected, and informed consent was obtained for the use of scales.

4. Results and discussion

Table 1 shows the distribution of respondents' backgrounds. Analysis of the data results shows that: Among the three local undergraduate colleges in Henan Province surveyed, due to the expansion of the scale of students in local undergraduate colleges since 2000, the team of teachers has also been growing. Especially around 2002, due to the shortage of teachers, many excellent undergraduate graduates and master's students were introduced to teach in the schools. These teachers are also the ones with the longest current teaching experience, accounting for 43.8%. The proportion of female teachers is slightly higher than that of male teachers, which is a normal phenomenon. Li pointed out that young female teachers are an important part of the construction of university teachers^[6]. This phenomenon is more obvious in primary and secondary schools, and society generally believes that women are more suitable for teaching. Yao analyzed the feminization of teachers and its countermeasures and found that women strive to seek institutional protection when choosing a profession, make use of gender's job-hunting advantages in the teaching profession to choose a teaching profession, and strive to maximize employment within the system^[7]. In the past five years, the local undergraduate colleges in Henan Province have actively improved the quality of education, constantly increased the introduction of high-level talents, and the proportion of doctors has increased year by year, accounting for 27.5%.

Table 1. Percentage distribution of the respondent profile

Variables		Frequency	Percentage (%)
Age	21–30	151	36.7
	31–40	94	22.9
	41–50	130	31.6
	51–60	27	6.6
	>61	9	2.2
Gender	Female	244	59.4
	Male	167	40.6
Educational attainment	Bachelor's degree	66	16.1
	Master's degree	232	56.4
	Doctoral degree	113	27.5
Teaching experience	1–5	165	40.1
	6–10	66	16.1
	>11	180	43.8

Table 2 summarizes the four basic abilities of teachers from the perspective of teacher ability, and the comprehensive average value is 3.28, indicating that respondents agree with these four secondary indicators. Local undergraduate colleges are teaching-oriented colleges, so the professional ethics of teachers are more deeply rooted

in the hearts of the people, and schools pay more attention to the cultivation of teachers' teaching abilities. The three local colleges and universities involved in the survey are all third-tier and fourth-tier cities with relatively remote geographical locations and insufficient academic atmosphere. Therefore, the scientific research ability of teachers is relatively weak, and there are fewer opportunities to participate in school-enterprise cooperation.

Li surveyed 10 application-oriented demonstration schools in Henan Province, showing that there was still a certain gap between the practical teaching ability and practical teaching effect of teachers and the requirements of application-oriented demonstration schools in Henan Province ^[6]. The factors that affect teaching ability mainly include schools, government, enterprises, and teachers. The atmosphere of local undergraduate universities to carry out scientific research is not strong enough, which is manifested as individual research, lack of team cooperation, weak scientific research ability, low scientific research level, low proportion of provincial and national projects, weak core paper writing ability, lack of close scientific research projects and industry needs. Many full-time teachers do not have strong scientific research initiative and enthusiasm ^[8].

Table 2. Summary table on teaching competence

Indicators	Weighted mean	Verbal interpretation	Rank
Teaching competence	3.30	Agree	2
Research competence	3.17	Agree	4
Cultivation of student competence	3.26	Agree	3
Personality attitude	3.37	Agree	1
Composite mean	3.28	Agree	

As shown in **Table 3**, the overall mean for classroom management is 3.24, indicating that respondents generally agreed with these views. Among them, “personal communication between teachers and students” is ranked first with a score of 3.29, indicating that teachers are particularly aware of teacher-student communication in classroom management and have done a good job. Mutual respect and understanding are also important. Teachers should show understanding of students' feelings. College teachers should acknowledge students' progress and encourage them to innovate their learning styles. Teachers communicate with students respectfully, enhance students' sense of belonging, and thus cultivate responsible students. Effective communication produces better students ^[9]. “Teaching and learning” scored 3.20, the lowest score. Teachers rarely use peer help and individual guidance to manage students' learning. This is also a real phenomenon in local undergraduate colleges in Henan: students have learning burnout and young teachers have job burnout. Heather pointed out that various scientific research indicators are linked to the evaluation of teachers' titles and the certification of tutors' qualifications, forcing teachers to reduce their attention to teaching and students, focus on scientific research work, and repeat teaching in the classroom to achieve their interests ^[10].

Table 3. Summary table on classroom management

Indicators	Weighted mean	Verbal interpretation	Rank
Discipline	3.22	Agree	2
Teaching and learning	3.20	Agree	3
Teacher-students personal communication	3.29	Agree	1
Composite mean	3.24	Agree	

As seen from **Table 4**, the average value of the teaching effect summary table is 3.31. Respondents generally agreed on five aspects of teaching effectiveness. Among them, “teaching readiness” scored 3.38

points, ranking first; This was followed by “teaching materials and methods”, which scored 3.34 points, both above average. The school regularly held teaching competitions and teaching supervision group lectures, so that teachers pay more attention to the improvement and innovation of teaching materials and methods. “Teaching administrative coordination,” “Teaching attitude,” and “Professional development” all scored slightly below average. This is due to heavy teaching tasks, professional title promotion, and other objective or subjective reasons, that some teachers will not have the time and energy to complete. Liu found that teachers have problems such as weak practical knowledge, lack of teaching research and reflection ability, occupational fatigue, narrow scope of knowledge, and inattentive and enthusiastic work ^[2]. In terms of the key behaviors of effective teaching, teachers have some problems, such as weak awareness of teaching goals, single teaching methods, lack of attention to control their emotions in class, lack of individual teaching communication, and untimely and unspecific guidance and evaluation of students ^[11]. Research on teacher effectiveness and professional competence of school teachers shows that efficient administrative coordination, pleasant classroom atmosphere, well-equipped teaching staff, library and laboratory equipment, and effective use of information and communication technology are key factors for effective teaching and learning ^[11].

Table 4. Summary table on teaching effectiveness

Indicators	Weighted mean	Verbal interpretation	Rank
Teaching preparation	3.38	Agree	1
Teaching materials and methods	3.34	Agree	2
Teaching attitude	3.28	Agree	4
Professional development	3.27	Agree	5
Coordination of teaching administrations	3.30	Agree	3
Composite mean	3.31	Agree	

Table 5 shows the differences in responses to teacher competence when grouped according to individual characteristics. There was no significant difference between age and teacher ability. When grouped by gender, the *P*-values of teaching ability and personal attitude were 0 and 0.007, respectively, which were much lower than the level of 0.05, indicating that there were significant differences between teachers of different genders in these two aspects. Male teachers have better teaching ability and personal learning attitude than female teachers. When teachers are grouped according to their education level, the *P*-values of the four aspects of teacher ability are all 0, indicating that there are significant differences in teacher ability among teachers with different education levels. According to the test results, teachers with doctoral degrees have a deeper and more thorough understanding of the major than teachers with graduate and undergraduate degrees and have a more systematic understanding of the training of professional students, so the teaching ability of doctors is higher than that of teachers with other degrees.

In addition, when grouped according to teaching experience, the *P*-values of teaching ability and personal attitude were 0 and 0.013 respectively, both lower than 0.05. Therefore, teaching experience significantly affects teachers’ teaching ability and personal attitude. The results of the statistical test show that teachers with longer teaching experience have better evaluation results than young teachers in these two aspects. The growth of teachers, from beginners to skilled teachers, requires not only a certain knowledge base but also years of teaching practice and reflection. Those who had earned a doctorate and taught for more than 11 years were found to be better at teaching than others ^[12].

Table 6 illustrates the differences in responses to classroom management after grouping individual data. A significant difference was observed between the education level and the teacher-student interactions, with a *P*-value of 0.010. Data analysis indicates that Ph.D. teachers exhibit superior interpersonal communication skills

compared to their counterparts. With rich professional knowledge and mastery of academic information, Ph.D. teachers engage students by involving them in various projects and guiding them from a more professional standpoint. Conversely, in a scenario where a teacher delivers a dull class, ensuring all students remain engaged becomes challenging. The absence of learning materials may lead to student dissatisfaction, prompting gestures and distractions. These disruptions are likely to divert attention, ultimately affecting classroom dynamics. Gradually, the lack of intellectual stimulation in the classroom may permeate, causing students to prioritize other activities over the teacher's course objectives ^[13].

Table 5. Difference in responses on teacher competence when grouped according to profile

		F-value	P-value	Interpretation
Age	Teaching competence	0.682	0.409	Not significant
	Research competence	1.290	0.257	Not significant
	Cultivation of students' competence	2.838	0.093	Not significant
	Personality attitude	2.826	0.094	Not significant
Gender	Teaching competence	7.027	0.000	Significant
	Research competence	1.678	0.154	Not significant
	Cultivation of students' competence	2.290	0.059	Not significant
	Personality attitude	3.545	0.007	Significant
Educational attainment	Teaching competence	12.099	0.000	Significant
	Research competence	9.491	0.000	Significant
	Cultivation of students' competence	10.176	0.000	Significant
	Personality attitude	8.383	0.000	Significant
Teaching experience	Teaching competence	8.196	0.000	Significant
	Research competence	0.484	0.617	Not significant
	Cultivation of students' competence	2.641	0.072	Not significant
	Personality attitude	4.400	0.013	Significant

Table 6. Difference in responses on classroom management when grouped according to profile

		F-value	P-value	Interpretation
Age	Discipline	0.067	0.796	Not significant
	Teaching and learning	0.002	0.966	Not significant
	Teacher-students personal communication	0.332	0.565	Not significant
Gender	Discipline	0.439	0.781	Not significant
	Teaching and learning	0.298	0.879	Not significant
	Teacher-students personal communication	0.564	0.689	Not significant
Educational attainment	Discipline	2.879	0.057	Not significant
	Teaching and learning	3.013	0.050	Not significant
	Teacher-students personal communication	4.678	0.010	Significant
Teaching experience	Discipline	0.605	0.547	Not significant
	Teaching and learning	0.391	0.677	Not significant
	Teacher-students personal communication	1.409	0.246	Not significant

Table 7 shows the differences in responses to teaching effectiveness when grouped according to personal data. When grouped by gender, the *P*-value of teaching readiness was 0.031, lower than 0.05. As a result, there

are significant differences in teaching readiness between teachers of different genders, with men being rated better than women. When grouped according to education level, the *P*-values of teaching preparation, teaching materials and teaching methods, teaching attitude, professional development and teaching, and administrative department coordination were 0.002, 0.005, 0.036, 0.017, 0.008, and 0.02, respectively, all lower than 0.05. When grouped by educational level, there are significant differences in all five aspects of teaching effectiveness, with teachers with doctoral degrees rated higher than other teachers. To explore the relationship between teaching and scientific research in undergraduate teaching activities of young teachers in medical colleges and universities, an empirical method was conducted. The results show that there is a positive correlation between the undergraduate teaching effect and the scientific research ability of young full-time teachers with doctoral degrees. In addition, when grouped according to teaching experience, the *P*-value of teaching preparation is 0.008, and the calculated value is less than 0.05. There are significant differences in teaching preparation among teachers of different teaching ages, and older teachers are more fully prepared than younger teachers^[14]. The growth of teachers, from beginners to skilled teachers, requires not only a certain knowledge base but also years of teaching practice and reflection.

Table 7. Difference in responses on teaching effectiveness when grouped according to profile

		F-value	P-value	Interpretation
Age	Teaching preparation	0.001	0.974	Not significant
	Teaching materials and methods	0.013	0.909	Not significant
	Teaching attitude	0.098	0.754	Not significant
	Professional development	0.154	0.695	Not significant
	Coordination of teaching administrations	1.486	0.224	Not significant
Gender	Teaching preparation	2.696	0.031	Significant
	Teaching materials and methods	1.748	0.139	Not significant
	Teaching attitude	0.829	0.507	Not significant
	Professional development	0.553	0.697	Not significant
	Coordination of teaching administrations	1.736	0.141	Not significant
Educational attainment	Teaching preparation	6.519	0.002	Significant
	Teaching materials and methods	5.396	0.005	Significant
	Teaching attitude	3.342	0.036	Significant
	Professional development	4.124	0.017	Significant
	Coordination of teaching administrations	3.935	0.020	Significant
Teaching experience	Teaching preparation	4.905	0.008	Significant
	Teaching materials and methods	2.842	0.059	Not significant
	Teaching attitude	0.657	0.519	Not significant
	Professional development	0.205	0.815	Not significant
	Coordination of teaching administrations	1.001	0.368	Not significant

The data results in **Table 8** show that there is a significant relationship between teacher ability and classroom management, indicating that teachers with strong teaching ability do better in classroom management discipline, teaching and learning, and teacher-student communication. They will pay more attention to the professional development of students and strengthen the communication between teachers and students. If the overall level of teachers is low in this respect, it will greatly affect the quality of student management, the quality of teaching, and the orderly development of educational work^[15]. A positive attitude is the key to success. Teaching attitude is an important factor affecting the teaching effect, which runs through the whole teaching process. A positive teaching attitude can promote the common development of teachers and students^[16].

Table 8. Relationship between teacher competence and classroom management

		r-value	P-value	Interpretation
Teaching competence	Discipline	0.722**	0.000	Highly significant
	Teaching and learning	0.725**	0.000	Highly significant
	Teacher-students personal communication	0.720**	0.000	Highly significant
Research competence	Discipline	0.781**	0.000	Highly significant
	Teaching and learning	0.775**	0.000	Highly significant
	Teacher-students personal communication	0.744**	0.000	Highly significant
Cultivation of students' competence	Discipline	0.843**	0.000	Highly significant
	Teaching and learning	0.845**	0.000	Highly significant
	Teacher-students personal communication	0.842**	0.000	Highly significant
Personality attitude	Discipline	0.824**	0.000	Highly significant
	Teaching and learning	0.788**	0.000	Highly significant
	Teacher-students personal communication	0.806**	0.000	Highly significant

The data in **Table 9** show that there is a significant correlation between teacher competence and teaching effect. The stronger the teacher's ability, the more effective the teacher is in teaching preparation, teaching materials and methods, teaching attitude, professional development, and teaching management coordination. Strict discipline is an effective guarantee for the smooth progress of classroom teaching. Because strict discipline is an effective guarantee for the smooth progress of classroom teaching. Therefore, teachers with strong teaching abilities are more effective in teaching and more concerned about the development of students. Teachers with strong teaching abilities will also consider students and actively coordinate teaching management ^[17].

Table 9. Relationship between teacher competence and teaching effectiveness

		r-value	P-value	Interpretation
Teaching competence	Teaching preparation	0.744**	0.000	Highly significant
	Teaching materials and methods	0.706**	0.000	Highly significant
	Teaching attitude	0.690**	0.000	Highly significant
	Professional development	0.627**	0.000	Highly significant
	Coordination of teaching administrations	0.675**	0.000	Highly significant
Research competence	Teaching preparation	0.657**	0.000	Highly significant
	Teaching materials and methods	0.657**	0.000	Highly significant
	Teaching attitude	0.693**	0.000	Highly significant
	Professional development	0.686**	0.000	Highly significant
	Coordination of teaching administrations	0.706**	0.000	Highly significant
Cultivation of students' competence	Teaching preparation	0.779**	0.000	Highly significant
	Teaching materials and methods	0.756**	0.000	Highly significant
	Teaching attitude	0.775**	0.000	Highly significant
	Professional development	0.728**	0.000	Highly significant
	Coordination of teaching administrations	0.762**	0.000	Highly significant
Personality attitude	Teaching preparation	0.786**	0.000	Highly significant
	Teaching materials and methods	0.753**	0.000	Highly significant
	Teaching attitude	0.739**	0.000	Highly significant
	Professional development	0.659**	0.000	Highly significant
	Coordination of teaching administrations	0.738**	0.000	Highly significant

Table 10 indicates a highly significant correlation between classroom management and teaching effectiveness. Effective teaching relies on proficient management, with effective classroom management serving as the foundation for seamless and efficient instruction. Without proper classroom management, or if management practices are inadequate, it can significantly impact the quality of teaching in the classroom. Classroom control is an indispensable skill; a teacher may possess a thorough understanding of course content and a strong desire to teach, but disruptions such as noise and lack of attention from students can hinder instructional outcomes. Managing a classroom is both an art and a science, beginning with cultivating a culture of respect and discipline among students in every class, thereby enhancing the overall classroom experience ^[18].

Table 10. Relationship between classroom management and teaching effectiveness

		r-value	P-value	Interpretation
Discipline	Teaching preparation	0.724**	0.000	Highly significant
	Teaching materials and methods	0.713**	0.000	Highly significant
	Teaching attitude	0.771**	0.000	Highly significant
	Professional development	0.735**	0.000	Highly significant
	Coordination of teaching administrations	0.755**	0.000	Highly significant
Teaching and learning	Teaching preparation	0.775**	0.000	Highly significant
	Teaching materials and methods	0.759**	0.000	Highly significant
	Teaching attitude	0.802**	0.000	Highly significant
	Professional development	0.783**	0.000	Highly significant
	Coordination of teaching administrations	0.807**	0.000	Highly significant
Teacher-student personal communication	Teaching preparation	0.863**	0.000	Highly significant
	Teaching materials and methods	0.831**	0.000	Highly significant
	Teaching attitude	0.843**	0.000	Highly significant
	Professional development	0.816**	0.000	Highly significant
	Coordination of teaching administrations	0.846**	0.000	Highly significant

5. Conclusion and recommendations

With the development of application-oriented undergraduate colleges, many young doctoral teachers have been recruited in recent years. These young teachers lack experience in educational and psychological knowledge, leading to a deficit in guiding students theoretically. The talent training goal of application-oriented colleges is to cultivate high-quality, application-oriented talents, necessitating teachers to enhance their scientific research abilities and guide students to actively engage in research and innovation.

Teachers should comprehend the diverse needs of students and organize additional teaching activities tailored to those needs. For instance, some students aim to enter the workforce directly after graduation, thus requiring more guidance on practical skills and literacy. Others aspire to pursue further education after college, necessitating deeper subject knowledge and theoretical guidance. By catering to individual aptitudes, teachers can meet the diverse needs of students and foster their overall development. Moreover, teachers should engage in frequent communication with student support staff. Regularly reporting students' class performance to student administrators aids in their holistic development. Professional teachers, academic mentors, and counselors should utilize weekly meetings to discuss student progress, exchange insights, and guide students

comprehensively. Schools should offer ample opportunities and platforms for teachers to exchange ideas and enhance their professional knowledge. This can be achieved by inviting high-level experts and scholars as visiting professors, advocating for the organization of various meetings, recruiting industry talents to teach, and encouraging teachers to engage in enterprise collaborations. Furthermore, schools should reduce class sizes and alleviate assessment requirements for teachers' teaching and research workload. This will afford teachers more time and energy to spearhead teaching reforms, provide personalized guidance to students, and enhance teaching effectiveness.

Funding

Research and Reform of Research-Based Teaching in Henan Province in 2023 Practical Project – “Study on Construction of Classroom and Evaluation Standard of Research-Based Teaching in Local Undergraduate Colleges in Henan Province”

Disclosure statement

The author declares no conflict of interest.

References

- [1] Liu G, 2021, University Teachers Teaching Academic Core Competence and Its Promotion Strategy, thesis, China University of Mining and Technology.
- [2] Liu J, 2018, Research on Competence, Quality and Key Behaviors of Middle School Teachers Affecting Teaching Effectiveness, thesis, East China Normal University.
- [3] Munna AS, Kalam MA, 2021, Teaching and Learning Process to Enhance Teaching Effectiveness: A Literature Review. *International Journal of Humanities and Innovation*, 4(1): 1–4. <https://doi.org/10.33750/ijhi.v4i1.102>
- [4] Zhou W, 2018, The Evaluation System of Teachers' Teaching Ability in Applied University, thesis, Xiamen University.
- [5] Bozkuş K, 2021, A Systematic Review of Studies on Classroom Management from 1980 to 2019. *International Electronic Journal of Elementary Education*, 13(4): 433–441.
- [6] Li H, 2021, A Study on the Practical Teaching Ability of Teachers in Local Application-Oriented Undergraduate Colleges in Henan Province. *Journal of Henan University of Engineering (Social Science Edition)*, 36(4): 89–93.
- [7] Yao Y, 2023, The Feminization of Teachers from the Perspective of Embeddedness and Its Countermeasures. *Journal of Hebei Normal University (Educational Science)*, 25(4): 61–69.
- [8] Caena F, Redecker C, 2019, Aligning Teacher Competence Frameworks to 21st Century Challenges: The Case for the European Digital Competence Framework for Educators (DIGCOMPEDU). *European Journal of Education*, 54(3): 356–369. <https://doi.org/10.1111/ejed.12345>
- [9] Liu Y, 2023, Research on Effective Communication Strategies between Teachers and Students in Colleges and Universities from the Perspective of the New Era Higher Education. *Scientific Advice*, 19(817): 148–150.
- [10] Heather, 2018, 7 Effective Teaching Strategies For The Classroom, viewed January 6, 2020, <https://blog.quizalize.com/2018/02/23/teaching-strategies/>
- [11] Sengottuvel A, Syed Aktharsha U, 2015, Teacher Effectiveness and Professional Competency in School Education. *International Journal of Management*, 6(1): 181–190.
- [12] Zhang J, 2022, Research on the Effectiveness of Undergraduate Classroom Teaching, thesis, East China Normal

University.

- [13] Wolff CE, Jarodzka H, Boshuizen HPA, 2020, Classroom Management Scripts: A Theoretical Model Contrasting Expert and Novice Teacher Knowledge and Awareness of Classroom Events. *Educational Psychology Review*, 33: 131–148. <https://doi.org/10.1007/s10648-020-09542-0>
- [14] He P, Dong L, 2016, An Empirical Study on the Relationship between Teaching and Scientific Research of Young Teachers. *Journal of Fujian Medical University (Social Science Edition)*, 12(2): 30–33.
- [15] Qin Y, 2019, Research on the Current Situation of Classroom Management of New Teachers in Rural Primary Schools, thesis, Chongqing Normal University.
- [16] Wang X, 2017, A Brief Discussion on the Influence of Teachers' Teaching Attitude on Teaching Effect. *Knowledge Economy*, 2017(9): 157 + 159. <https://doi.org/10.15880/j.cnki.zsjj.2017.09.090>
- [17] Cui D, Jiang Y, Zhou X, 2019, An Analysis of the Ways to Improve Classroom Discipline in Colleges and Universities. *Journal of Liaoning Radio & TV University*, 2019(1): 91–93.
- [18] Franklin H, Harrington I, 2019, A Review into Effective Classroom Management and Strategies for Student Engagement: Teacher and Student Roles in Today's Classrooms. *Journal of Education and Training Studies*, 7(12): 1–12. <https://doi.org/10.11114/jets.v7i12.4491>

Publisher's note

Bio-Byword Scientific Publishing remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.