

Research on Teaching Strategies in "Building Construction" at Higher Vocational Colleges in China

1. Introduction

China's construction industry development necessitates skilled graduates from vocational colleges. Yet many graduates struggle to meet evolving industry demands (Li, 2015; Ministry of Housing and Urban-Rural Development, 2022). Rapid technological advancements, including smart building and green building technologies, requires course reform (Xing et al., 2021; Li and Yang, 2017). Current building construction courses often lack practical application and modern techniques (Xu, Mao, & Hu, 2024), leaving graduates not equipped for industry challenges and lacking interdisciplinary skills (Sun, 2023). This gap highlights the need for a modernized curriculum aligned with industry standards (Zhang et al., 2024).

Many research explores innovative teaching methods within architectural and civil engineering programs (Guo, 2023; Chen, 2023; Zhang, 2021; Wei, 2020), but a comprehensive, systematically updated curriculum integrating modern construction techniques remains absent (Zhang et al., 2024). Zhang et al. (2024) also highlight the integration of coursework with certifications and innovative teaching methods, but they did not mention emerging technologies like BIM (Building Information Modeling, a technique used in digital modeling, collision simulation and construction management). Effective vocational education based on balancing theory and practice, utilizing active learning strategies such as project-based learning and industry partnerships (Chan & Sher, 2014; Guo et al., 2023). This research aims to develop a comprehensive building construction course addressing these needs.

The primary aim of this research is to design and propose a modernized "Building Construction" course for architectural, engineering, and construction (AEC) majors within higher vocational colleges in China. This research seeks to bridge the gap between current vocational education and the emerging demands of the construction industry, thereby improving student competence and employability. The main research question is "How can the design of the

course Building Construction in Architectural, Engineering and Construction majors be improved for vocational universities in China?"

2. Research method

This study adopts a pragmatic research paradigm, problem-oriented and solution-focused. Pragmatism emphasizes the practical application of research findings and the selection of methods best suited to answer the research questions (Clarke and Visser, 2018). It values both quantitative and qualitative methods, recognizing their unique contributions to understanding complex phenomena. This pragmatic approach suits well with the aim of this study: to design a practical and effective "Building Construction" course based on both theoretical frameworks and industry reality considerations.

The research adopts a mixed-methods approach, integrating five research strategies to achieve a thorough understanding of the current situation and the requirements of stakeholders of "Building Construction" education in the selected higher vocational college and to support the design of a modernized course. The integration of these methods is significant for addressing different aspects of the research questions and enhancing the validity and reliability of the findings. The specific methods, along with the rationale, are detailed below.

1. Literature Review

The systematic review examines existing literature on vocational education, specifically focusing on course design in AEC majors, pedagogical approaches in higher vocational colleges, and the integration of digital technology in vocational education. This provides a theoretical foundation for the research, establishing the current state of knowledge and identifying the gap that this study aim to fill. The review identifies best practices and innovative vocational teaching methodologies relevant to the AEC industry, providing a benchmark for comparison when evaluating the effectiveness of the proposed course design. Key theories and concepts emerging from the literature review will

foster the development of the subsequent research instruments and the interpretation of findings (Knopf, 2006).

2. Semi-structured Interviews

Semi-structured interviews will be conducted with two groups: teachers involved in delivering the "Building Construction" course and industry managers from companies with collaborative agreements with the college. This qualitative approach allows for thorough investigation of their experiences, perspectives, and challenges related to the existing course and the integration of modern practices.

Teacher Interviews: These interviews will help discover teachers' perspectives on current teaching methodologies, challenges in course implementation, and their perceptions of the requirements of skills and knowledge from this course for graduates. The data gathered will be vital in understanding the current pedagogical realities in vocational colleges in China and supporting assessment on the feasibility and effectiveness of the proposed changes.

Industry Interviews: Interviews with industry managers will provide insights into industry needs and expectations. They will assess the preparedness of graduates, identify skill gaps, and highlight the relevance of current course content to the demands of the workforce. And they will offer a comparison between the industry standards and college assessment standards. This feedback will directly influence the design and content of the updated curriculum.

The semi-structured format allows for flexibility while ensuring all key areas are covered and enables exploring unexpected insights and gain a thorough understanding of the issues.

3. Focus Group Discussions

Focus group discussions will be conducted with students currently enrolled in the "Building Construction" course. These discussions will provide valuable insights into student learning experiences, their perspectives on the course content, and their suggestions for improvement. The group setting encourages interaction and the sharing of diverse perspectives, offering a richer understanding of student experiences than individual interviews could provide.

(O. Nyumba et al., 2018). The focus groups will be moderated to ensure a balanced and inclusive discussion.

4. Questionnaires

This research adopts a mixed-methods questionnaire combining quantitative and qualitative data collection. A five-point Likert scale (South, 2022) measures participants' perceptions of course content, teaching effectiveness, knowledge and skill development, and overall satisfaction. Specific items evaluate the alignment of course content with industry standards, the engagement of teaching methods, and the improvement in key skills like problem-solving (Daud, 2013) and engineering thinking (Waks et al., 2011).

Qualitative open-ended questions explore individual experiences and perspectives in deeper level. These questions expect detailed descriptions of effective and ineffective teaching practices, suggestions for improvement, experiences with specific course elements (such as software, technology or online course experiences), and self-assessments of industry preparedness.

The questionnaire is designed for efficient completion and clarity. The quantitative section is before the qualitative section to minimize bias. Pilots will ensure clarity before online distribution (Wenjuanxing, an online questionnaire tool in China) to guarantee anonymity and facilitate data collection. Data analysis will combine statistical methods for the quantitative data and qualitative coding for the open-ended responses (Skjott Linneberg, 2019), providing a comprehensive understanding of participants' views on the course's effectiveness and areas for improvement. This integrated approach offers a comprehensive evaluation of the course, informing future curriculum development.

5. Classroom Observations

Classroom observations will be conducted to observe teaching practices and student activities during the "Building Construction" course. This will provide a more holistic view of the learning environment, complementing the insights from interviews and focus groups (Cohen, 2016). Observations will be unobtrusive to minimize disruption of the classroom environment and ensure natural interactions between instructors and students. The observations will use

a structured checklist to ensure consistency and allow for the objective assessment of teaching strategies (lectures, discussions, hands-on activities, use of technologies) and student engagement levels.

Rationale for mixed methods and validation

The mixed-methods approach, integrating both qualitative and quantitative data, is critical for validating the findings and ensuring the reliability of the conclusions. The multiple sources of data from teacher interviews, industry manager perspectives, student focus groups, student questionnaires, and classroom observations, minimize bias and strengthens the validity of the results. The combined insights from these research methods provide a thorough understanding, ensuring a practical and evidence-based course design for the "Building Construction" course.

3. Sampling

This research adopts a purposive sampling strategy (Gentles et al., 2015), focusing on a single state-held vocational college in Jiangsu province, China. This targeted approach allows for exploration of the context-specific challenges and opportunities within a particular institution. This focused study, though limited in scope, offers valuable insights into practical implementation strategies. The chosen institution, a higher vocational college located in a mid-sized Jiangsu city, provides a suitable context for this study. Jiangsu's advanced economy and the college's average resource level, including its established industry collaborations, provide a strong foundation for drawing insightful conclusions applicable to a wider range of institutions across China.

The sample comprises three key stakeholder groups: students, teachers, and industry representatives. The rationale for the sampling approach for each group is as follows.

1. Student Sample

The student sample comprises students enrolled in the second year of the Architecture Interior Design major at the chosen vocational college in Jiangsu.

This cohort is selected because they are actively engaged in the "Building Construction" course, providing valuable firsthand insights into their learning experiences and perceptions of the current course. Second-year students are chosen to ensure they have had sufficient time to experience the course while still being actively involved in their studies (third-year students do internship all year in enterprises). This approach minimizes the potential for recall bias and maximizes the relevance of their experiences to the current course design.

Purposive sampling is used to select a subset of these second-year students for participation in focus group discussions. This ensures a diverse range of student perspectives, including students with varying academic backgrounds, learning styles, and levels of prior experience in architecture or construction. The focus group size will be limited to 6-8 students per group for interactive discussions and make sure that all participants have the opportunity to contribute their perspectives. Multiple focus groups will be conducted to ensure wider range of experiences are collected. The exact number of focus groups and students per group might be determined based on the overall student cohort size and the feasibility of conducting the sessions later.

2. Teacher Sample

Ten teachers involved in delivering the "Building Construction" course from the Architecture Interior Design major and related majors (such as Interior Design, Construction Cost evaluation, and Construction Management) of the chosen college will be selected for semi-structured interviews. Purposive sampling will be used to ensure representation of different teaching experience levels, pedagogical approaches, and areas of expertise. This selection aims for a balanced representation of the teaching staff involved in the course delivery, enabling a comprehensive understanding of the diverse teaching practices and perspectives within the institution. Including teachers with a range of experience offers valuable insights into the evolution of teaching strategies and the challenges faced in updating course content.

3. Enterprise Sample

Three managers from companies that have active collaborative agreements with the Architecture Interior Design major of the chosen vocational college will be selected for semi-structured interviews. This purposive sampling aims to ensure

that the perspectives of key industry stakeholders are included in the research. Selecting managers from companies with established collaborations will provide valuable insights into industry expectations, desired graduate skills, and the perceived relevance of current course content to employment requirements. This approach allows researchers to directly connect with the opinions of individuals who have a direct interest in and influence on the employment opportunities of graduates.

The selection of three managers ensures sufficient representation of different perspectives within the collaborating industry network. This targeted approach balances practicality with a representative scope, offering insights into how the course aligns with industry demands and allowing the researchers to uncover existing institutional collaborations.

The purposive sampling strategy for all three stakeholder groups prioritizes a thorough understanding of the specific context of the chosen vocational college and its relevant industry partnerships. The limited scope allows for deep investigation and specific recommendations for course improvement, serving as a valuable case study help shaping broader course reform. The limited sample size in each category is justified by the specific objectives of the research, which focuses on a detailed analysis of a single institution (Hossan, Dato'Mansor, and Jaharuddin, 2023).

4. Ethical Considerations

Ethical considerations are throughout this research. This study is committed to meet the ethical standards and receiving informed consent from all participants.

Researcher's Position: The researcher holds no official position at the vocational college during the study, and does not have the authority to influence the students or teachers in their classroom teachings. The researcher has no collaborative agreements with any of the enterprises. The researcher have no authoritative relationship with the participants (Murillo, 2024).

Informed Consent: The researcher will explicitly state the aim and objectives of the research, as well as the expectations and procedural details to support the informed consent (Creswell, 2013). Prior to participating in any activity, all participants will be given with a comprehensive information sheet outlining the study's aim, procedures, benefits, risks, and their right to withdraw at any time. Participants will be given sufficient time to review the information and ask any questions before providing written consent. This ensures that participants are fully aware of the consequences of their interviews, focus group discussions and questionnaires.

Confidentiality and Anonymity: All data collected will be confidential. Participants' identities will be protected through anonymization techniques, such as assigning unique identification codes instead of using names. Transparency and confidentiality procedures will be detailed in all consent forms, improving participant trust and data security.

Data Protection: Data collected will be stored securely and accessed only by the researcher. Appropriate measures will be implemented to prevent data breaches and ensure the privacy of participants. Data will be stored securely on password-protected computers and hard drives in the office with authorized access to personnel only. All data will be deleted securely after the completion of the study, adhering to data protection regulations.

Researcher Objectivity: The researcher will maintain objectivity and impartiality during the research process. Any potential conflicts of interest will be declared and addressed appropriately. The researcher will be trained on unbiased interviewing and data analysis techniques to minimize the risk of bias influencing the research findings. The analysis methods will be explicitly outlined to maintain transparency.

This study prioritizes the well-being of participants. The researcher will conduct the research in a way that maximizes benefits and minimizes potential harm to participants. All interactions will be respectful and sensitive to individual needs. The researcher will offer follow-up discussions to address any concerns or questions after interviews or focus groups. The research will aim to contribute positively to the field of vocational education.

5. Research Tools

The selection of appropriate research tools is critical to ensuring the validity and reliability of data collected. The tools employed in this study are justified as follows.

Semi-structured Interviews (AEC Professionals & higher vocational college Instructors): Semi-structured interviews are chosen for their flexibility and ability to gather detailed and insightful information (Dearnley, 2005). A pre-defined interview guide ensures consistency across interviews while allowing for spontaneous exploration of emerging discussions. This allows for detailed analysis of responses and follow-up questions, providing deeper insights into the participants' perspectives on current course limitations, industry requirements, and effective teaching methodologies. The open-ended format allows for exploration of unexpected issues, thereby providing a more comprehensive understanding. Audio recording will be used to ensure accuracy in transcribing the interview data, and all recordings will be anonymized to protect participant confidentiality.

Focus Group Discussions (higher vocational college students): Focus group discussions are selected to facilitate interactive discussions among current vocational college students, gathering their experiences and perspectives on "Building Construction" courses. The group setting encourages participants to share their ideas and build on each other's contributions, leading to richer and more insightful data than individual interviews. A focus group discussion guide will be utilized to guide the discussion, ensuring that key areas are covered. The discussion will be standardized to ensure a balanced and respectful environment, and audio recordings will be anonymized to protect participant confidentiality.

Survey Questionnaires (AEC Employers & higher vocational college Students): Structured questionnaires will be used to collect quantitative data from AEC employers and higher vocational college students on skill requirements, graduate preparedness, and employer satisfaction. The use of closed-ended

questions allows for efficient data collection and easy quantitative analysis. Carefully designed scales and response options will maximize the validity and reliability of the data. The questionnaire will be piloted before distribution to identify any ambiguities and ensure clarity. Online survey platforms will be used to facilitate data collection and minimize response burden. All questionnaires are anonymous.

Document Analysis: This involves a systematic review of existing "Building Construction" course, including teaching logs, teaching standards, teaching plans, and assessment standards from various higher vocational colleges across China, relevant industry reports, national vocational education guidelines, as well as international best practice examples. A pre-defined framework will be used to guide the analysis, ensuring consistency and assisting the identification of key themes and patterns. This systematic approach is critical to understand existing practices before proposing changes.

Observation Checklists (Classrooms): Classroom observations will be conducted to assess current teaching practices and student engagement. Pre-defined checklists will be used to objectively record classroom activities, teaching methods, and student interactions. Observations will be conducted by trained researchers to ensure consistency and minimize bias. Observations will provide insights into teaching strategies, student participation, and the effectiveness of different pedagogical approaches.

6. Data Analysis Methods

The data analysis strategy will integrate both qualitative and quantitative techniques.

Qualitative Data Analysis: The qualitative data from teacher and enterprise manager interviews, student focus group discussions, and open-ended questionnaire responses will be analyzed using a mixed-methods approach integrating content analysis, narrative analysis, and discourse analysis (Priest, Roberts, and Woods, 2002). This approach enables a deep understanding of the

research problem by examining the data at different levels: obvious content, individual narratives, and underlying discourses.

1. Content Analysis: This method will provide a broad overview of the data. It will systematically identify the key concepts, themes, and keywords related to the effectiveness of the existing “Building Construction” course. This analysis will also assess the comprehensiveness and accuracy of the information presented, ensuring the curriculum content aligns with current best practices and industry standards. The analysis will consider both the explicit content and any underlying biases or perspectives (Wang, Haertel, and Walberg, 1990).

2. Narrative Analysis: Other than content analysis, narrative analysis will focus on individual stories and experiences. This method will analyze the experiences shared by teachers, industry professionals, and students regarding their perceptions of the course, their learning tours, and their expectations of graduate skills. The focus will be on identifying key themes and patterns within individual narratives and comparing them across participants to explore similarities and differences in experiences (Burton, Brown, and Johnson, 2013). This provides a thorough understanding of how individuals' perceptions shape their understanding of the course.

3. Discourse Analysis: Finally, discourse analysis will help examine the underlying relationships, ideologies, and assumptions embedded in the language used by different stakeholders. This method will move to explore how these narratives are shaped by broader social and cultural contexts. Discourse analysis will focus on identifying repeated patterns in language use, the ways in which specific themes are constructed, and the influence of this language for understanding the perspectives and experiences of different groups (Tenorio, 2011). This will examine how relations between students and teachers are established through language and uncover underlying ideological positions.

These three methods will not be applied sequentially but will be integrated. The findings from content analysis will assist the selection of narratives for detailed analysis, and the themes identified through narrative analysis will be further examined through discourse analysis. This iterative process allows for a deeper, more thorough understanding of the data. By moving between these three analysis, the study could move from surface level identifying to exploring

how underlying meanings and interactions shaping the experiences and perspectives from different stakeholders. The goal is a comprehensive and multi-layered analysis collecting both the breadth and depth of perspectives related to the "Building Construction" course.

Quantitative data analysis: The quantitative data obtained from the surveys will be analyzed using SPSS software. Descriptive statistics, including frequencies, means, standard deviations, will offer an initial overview of participant responses and identifying key trends. Inferential statistical techniques will then be applied to test pre-defined hypotheses and explore potential relationships between variables. Specifically, parametric tests such as t-tests and Analysis of Variance will be used to compare means across different groups, while correlation analyses will investigate the strength of associations between variables. The choice of specific statistical tests will depend on the data and the research hypotheses. The results of both the descriptive and inferential analyses will be presented clearly and comprehensively in the final research report, ensuring that both the overall patterns of the data and any significant relationships are clearly communicated.

The findings from qualitative and quantitative analyses together will provide a comprehensive understanding of the research problem. Qualitative data will provide context and depth of understanding, while quantitative data will provide evidence to support or challenge interpretations from qualitative data. This integration will be significant in developing an evidence based course design.

7. Conclusion

This methodology for the research on improving the "Building Construction" course in higher vocational colleges in China, using a mixed-methods approach. The researcher will gather data from teachers, industry professionals, and students through interviews, focus groups, surveys, and classroom observations. This approach will provide a detailed understanding of the course's strengths and weaknesses. Thematic, narrative, and discourse analyses, along with statistical techniques, will be used to interpret the data. Ethical considerations are central to the design, ensuring participants' well-being. The findings might

contribute to enhancing higher vocational education in China's construction sector, leading to better-prepared graduates for continuously evolving industry.

Reference

- [1]Burton, M., Brown, K., and Johnson, A. (2013) ‘Storylines about rural teachers in the United States: a narrative analysis of the literature’, *Journal of research in rural education*, 28(12).
- [2]Chan, C., & Sher, W. (2014) ‘Exploring AEC education through collaborative learning. Engineering’, *Construction and Architectural Management*, 21(5), 532-550.
- [3]Chen, L. (2023) ‘A Preliminary Study of the Training of Drawing Skills for Civil Engineering Majors in Higher Vocational Colleges Under the “1+ X” System’, *Journal of Contemporary Educational Research*, 7(4), 47-54. DOI:10.26689/jcer.v7i4.4884
- [4]Clarke, E. and Visser, J. (2018) ‘Pragmatic research methodology in education: possibilities and pitfalls’, *International Journal of Research & Method in Education*, 42(5), pp. 455–469. Doi: 10.1080/1743727X.2018. 1524866.
- [5]Cohen, J., & Goldhaber, D. (2016) ‘Building a more complete understanding of teacher evaluation using classroom observations’, *Educational Researcher*, 45(6), 378-387. Available at: <https://doi.org/10.3102/0013189X16659442>
- [6]Creswell, J. (2013) *Qualitative inquiry and research design*. Sage.
- [7]Creswell, J. W. (2015) *Educational research: Planning, conducting, and evaluating quantitative and qualitative research*. Pearson.
- [8]Daud, M. F. (2013) ‘How effective is the assessment of generic skills gained by Technical Vocational Education and Training (TVET) of engineering students engaged in Problem-Based Learning (PBL)–A Literature Review’, *PBL Across Cultures*, 88.

- [9]Dearnley, C. (2005) ‘A reflection on the use of semi-structured interviews’, *Nurse researcher*, 13(1). Doi: 10.7748/nr2005.07.13.1.19.c5997
- [10]Gentles, S. J., Charles, C., Ploeg, J., and McKibbin, K. A. (2015) ‘Sampling in qualitative research: Insights from an overview of the methods literature’, *The qualitative report*, 20(11), 1772-1789.
- [11]Guo, H., Wu, J., Zhang, Y., and Yin, F. (2023) ‘Research on the Current Situation and Development Countermeasures of the Three Education Reform’, *Higher Vocational Architecture*, 6(9), 37-42, DOI: 10.25236/FER.2023.060907
- [12]Hossan, D., Dato’Mansor, Z., and Jaharuddin, N. S. (2023) ‘Research population and sampling in quantitative study’, *International Journal of Business and Technopreneurship (IJBT)*, 13(3), 209-222. DOI: <https://doi.org/10.58915/ijbt.v13i3.263>.
- [13]Knopf, J. W. (2006) ‘Doing a literature review’, *PS: Political Science & Politics*, 39(1), 127-132. Doi:10.1017/S1049096506060264.
- [14]Li, J., and Yang, H. (2017) ‘A research on development of construction industrialization based on BIM technology under the background of Industry 4.0’, In *MATEC Web of Conferences*, Vol. 100, p. 02046. DOI: <https://doi.org/10.1051/mateconf/201710002046>
- [15] Li, H. (2015) ‘Research on the Training Model of Business Administration Talents in Higher Vocational Education by Direction and Level: Based on the Perspective of Small and Medium sized Enterprises’, *Journal of Zhangjiakou Vocational and Technical College*, 28 (3), 3.
- [16]Ministry of Housing and Urban-Rural Development (2022) ‘Fourteenth five year plan for the development of the construction industry’, *Engineering cost management*, 2022 (02): 4-10.
- [17]Murillo, F. (2024) ‘A Case Study on University Architecture Professors’ Experiences Teaching Building Information Modeling Technology’, *Doctoral dissertation*, Concordia University Irvine.
- [18] O. Nyumba, T., Wilson, K., Derrick, C. J., and Mukherjee, N. (2018) ‘The use of focus group discussion methodology: Insights from two decades of application in conservation’, *Methods in Ecology and evolution*, 9(1), 20-32. Available at: <https://doi.org/10.1111/2041-210X.12860>

- [19] Priest, H., Roberts, P., and Woods, L. (2002) *An overview of three different approaches to the interpretation of qualitative data*. Part 1: Theoretical issues.
- [20] Skjott Linneberg, M., and Korsgaard, S. (2019) 'Coding qualitative data: A synthesis guiding the novice', *Qualitative research journal*, 19(3), 259-270. Available at: <https://doi.org/10.1108/QRJ-12-2018-0012>
- [21] South, L., Saffo, D., Vitek, O., Dunne, C., and Borkin, M. A. (2022) 'Effective use of Likert scales in visualization evaluations: A systematic review', In *Computer Graphics Forum*, Vol. 41, No. 3, pp. 43-55. Available at: <https://doi.org/10.1111/cgf.14521>
- [22]Sun, J. (2023) 'Research on the construction and development of vocational college graduates' job market', *International Journal of New Developments in Education*, 5(24). DOI: 10.25236/IJNDE.2023.052423
- [23]Tenorio, E. H. (2011) 'Critical discourse analysis, an overview', *Nordic journal of English studies*, 10(1), 183-210.
- [24]Waks, S., Trotskovsky, E., Sabag, N., and Hazzan, O. (2011) 'Engineering thinking: The experts' perspective', *International Journal of Engineering Education*, 27(4), 838-851.
- [25]Wang, M. C., Haertel, G. D., and Walberg, H. J. (1990) 'What influences learning? A content analysis of review literature', *The Journal of Educational Research*, 84(1), 30-43.
- [26]Wei, A. (2020) 'The application of "Artificial Intelligence+" in the construction of architectural majors in higher vocational colleges', *2020 International Conference on Educational Science* (pp. 579-584).
- [27]Xing, W., Hao, J. L., Qian, L., Tam, V. W., and Sikora, K. S. (2021) 'Implementing lean construction techniques and management methods in Chinese projects: A case study in Suzhou, China', *Journal of cleaner production*, 286.
- [28] Xu, J., Mao, M., and Hu, M. (2024) 'Research on the Construction of Industry Education Integration Industrial College and Dynamic Adjustment of Majors', *Education Reform and Development*, 6(10), 47-55. DOI: 10.26689/erd.v6i10.8652.
- [29] Yin, Y., Zeng, H., and Zheng, X. (2021) 'Discussion on Measures to Improve the Practical Skills of Students Majoring in Construction Engineering Technology in

Higher Vocational Colleges’, In 2020 3rd *International Seminar on Education Research and Social Science* (pp. 430-434). DOI: 10.2991/assehr.k.210120.079.

[30] Zhang, G., Liu, R., Li, T., and Yang, H. (2024) ‘Exploring the Teaching Reform of Higher Vocational Building Construction Process Course in the Background of Industrial Transformation and Upgrading in the New Construction Era’, In *Proceedings of the 3rd International Conference on New Media Development and Modernized Education*. Available at: <http://dx.doi.org/10.4108/eai.13-10-2023.2341331>

[31] Zhang, L. (2021) ‘Research on the Innovation of Teaching Mode of the Studio System of Architectural Decoration Majors in Higher Vocational Education under the Perspective of Integration of Industry and Education’, *Journal of World Architecture*, 5(2). DOI: 10.26689/jwa.v5i2.1961.