Region-Educational Research and Reviews, 2025,Volume 7, Issue 6
10.12238/rerr.v7i6.4213
ISSN Online:2661-4634
ISSN Print:2661-4626

Research on the Construction Model of "1+X" Digital Teaching Case Database from the Perspective of New Business Disciplines

Hongyi Gui

Hubei Business College, Wuhan, Hubei Province, 430079, China

Abstract: The application of new technologies and changes in industry competitive environments have profoundly transformed business management practices, posing significant challenges to traditional business education. To effectively address these challenges, the development of New Business Disciplines must continuously advance and improve case teaching methods. Based on the practices of Hubei Business College in constructing new business teaching case databases, this paper systematically elaborates the construction model of "1+X" digital teaching case database. In terms of case creation, it emphasizes ideological-political elements embedding, content innovation, cross-disciplinary collaboration, and student-centered approaches. For case evaluation, it establishes a comprehensive lifecycle and multidimensional evaluation mechanism covering five dimensions: ideological-political integration, interdisciplinary crossover, technological innovation, localization, and competency enhancement. Finally, it introduces the technical implementation of digital teaching case databases for business education from the perspectives of construction, operation, and maintenance.

Keywords: New Business Disciplines, teaching case database, construction model

1. Introduction

At present, business education worldwide is facing major challenges in the field of enrollment and employment. The wide application of artificial intelligence and other technologies in the digital intelligence era has brought profound changes in business practice, forcing traditional business disciplines to make changes in scientific research and talent cultivation. As an integral part of the construction of New Liberal Arts, New Business Disciplines has both disciplinary and professional attributes. Its essence is a business education revolution based on digital thinking with interdisciplinary integration as the core. It aims to break barriers between disciplines and majors, promoting interdisciplinary collaboration and major synergy. Through integrated approaches like "specialization-ideology-innovation" fusion, industry-education integration, "multi-chain convergence," and digital empowerment—along with case-based, blended, and project-based teaching methods—it cultivates outstanding talents suited to contemporary needs.

Effective case teaching for new business education must strengthen ideological-political elements integration, focus on teaching objectives, replicate authentic digital intelligence business scenarios, and drive deep student engagement. As the foundation of case teaching, case database construction should expand sources and updates, enhance evaluation for quality improvement, and track maintenance for teaching efficacy[1].

Existing research has thoroughly explored macro-level aspects like discipline/professional development and talent cultivation reforms in New Business Disciplines. However, few studies address micro-level implementation of interdisciplinary crossover, major synergy, or digital empowerment in classroom teaching. Regarding case teaching, current research mainly focuses on universal applications or discipline-specific discussions, lacking top-down explorations

of ideological-political elements integration, interdisciplinary fusion, and digital transformation in case teaching reforms and teaching case database construction.

Under the background of New Business Disciplines construction, how should teaching cases be developed to achieve the multi-faceted integration of cutting-edge theories across disciplines, technological innovations, evolving industrial competitive landscapes, enterprise management practices, and ideological-political elements? What constitutes the fundamental basis for evaluating the quality of teaching cases? What evaluation indicator systems, processes, and mechanisms should be adopted? How will the latest digital technologies transform the construction of teaching case database to enable efficient retrieval and seamless integration of cases? How can teaching case database multi-dimensionally enhance and empower traditional case teaching to improve students' ability to solve real-world business problems in the digital and intelligent era using interdisciplinary knowledge? These are the key issues addressed in this paper.

2. The "1+X" Teaching Case Development Model with Deep Ideological-Political Embedding

Through practical work, we explored the "1+X" teaching case development model. "1" represents the core theoretical basis of the discipline, "X" represents other disciplines within and outside New Business Disciplines and the new generation of information technology represented by artificial intelligence. The core of "1+X" model is the cross-border integration and bottom innovation of teaching case creation, including the following points.

Ideological-political elements embeddedness. At present, the business ethics problems represented by CSR in enterprise management are increasingly prominent. In addition to profits, entrepreneurs are increasingly paying attention to and reflecting on the extensive and long-term social impact of their business behavior. This provides a real organizational context for the case teaching of New Business Disciplines in terms of values and ethics.Case writing must uphold the fundamental task of fostering virtue through education, embedding elements like national strategies, laws/regulations, and ethical governance into cutting-edge practices and disciplinary theories.The ideological and political elements are deeply embedded in the vivid case scene narrative structure and the basic principle framework of the discipline, so as to achieve “fusion of salt and water” and "integration of discipline and ideology". Ideological-political elements within teaching cases cannot exist in isolation from the case enterprise itself, nor should they provide simple or standardized answers, or involve direct moral preaching during case discussions. Instead, these elements should inherently stem from genuine decision-making dilemmas faced by the case enterprise in its operations. These dilemmas include conflicts such as: corporate social responsibility vs. short-term profits; carbon emissions, energy conservation and emissions reduction, or technological upgrades vs. cost control; product quality and safety, supply chain management vs. competitive market advantages.Students need to analyze, critique, and debate these difficult decisions, formulating their own viewpoints and providing well-reasoned justifications. Through this process, they naturally develop sound business ethics, which they can then effectively apply in their future professional careers.

Content innovation. Focus on cutting-edge technology, and select a number of teaching cases that can reflect China's local management situation and the business transformation in the digital and intelligence era from the aspects of university innovation and entrepreneurship, industry-academia collaborations, business transformation and cutting-edge practice of well-known enterprises at home and abroad. The case itself should be open, speculative and real-time, focusing on the real problems that are happening in the current enterprise, reflecting the impact of the new generation of information technology represented by artificial intelligence on enterprise management practice[2], enabling students to think divergently and critically from multiple perspectives, and dynamically updating with the changes of the enterprise's own management contradictions. The most critical requirement for innovation in case content is that cases should clearly reflect the real-world problems and challenges currently unfolding, still unresolved, actively being explored, or anticipated to arise in the future during an enterprise's digital transformation. Such case material can only originate from sources like the factory floor or the office, not from news media or other publications. Therefore, case development supporting the construction of New Business Disciplines must involve deep immersion into frontline operations, thoroughly collecting and mastering real-time enterprise operational data, and integrating it into teaching cases suitable for student research. Naturally, supplementary collection of case-related information by both teachers and students during the teaching process is also vital. These requirements significantly reduce the "shelf life" of teaching cases, objectively necessitating

high-frequency updates and revisions to keep pace with evolving business practices.

Cross border cooperation. Organize teachers from different disciplines and enterprises' experts to collaborate in case writing, and comprehensively improve the High-order Thinking, Innovation and Challenge of teaching cases. Professional teachers should have a full understanding of the enterprises related to the case, and it is best to have front-line research experience. The enterprise experts participating in the case preparation should have a preliminary understanding of the basic theories and teaching objectives of relevant disciplines. In the creation of teaching cases, students are also a subject that should not be ignored. By guiding students to participate in case research, writing and updating, students' participation can be maximized, and the readability and applicability of cases can be ensured from the perspective of students.The primary challenge in fostering cross-boundary collaboration for teaching case development is how to motivate frontline managers within enterprises to participate. For businesses, involvement in case development does not yield immediate improvements in short-term profits or competitiveness. Therefore, university instructors should provide participating case enterprises with research findings and solutions that offer tangible practical value, or highly innovative and insightful perspectives. This approach helps encourage enterprise frontline managers to engage in the case development process and contribute additional resources to enhance case quality.

Student-Centered Approach. Based on the "New Three Centers" theory and scaffolding teaching theory, focuses on cultivating students' ability to use interdisciplinary knowledge to solve cutting-edge business problems, optimizes the design of case teaching methods and processes, and uses digital technology to achieve students' in-depth participation and immersive experience in case teaching. Students need to make an in-depth analysis of the case in the form of a team, using the core theories and concepts involved in the course, and propose feasible solutions to open management practice problems through speculative and critical means such as discussion, display and debate, and provide students with the opportunity to have a direct dialogue with case enterprises, and even implement and test their solutions, forming a PDCA closed loop of real problem driven case teaching.

3. Quality standards and evaluation mechanism of teaching cases supporting the construction of New Business Disciplines

New Business Disciplines redefined "good" teaching cases. Therefore, it is necessary to explore a brand-new case quality evaluation standard closely combined with the requirements of the construction of New Business Disciplines. Specifically, the following dimensions should be highlighted.

The dimension of ideological-political elements integration, that is, whether the case contains high-quality ideological-political elements, and whether the ideological-political elements can be organically integrated with the case narrative framework and professional knowledge. The ideological-political elements in the case can not simply inculcate the value concept, but should be combined with the problems faced by specific enterprises, encourage students to carry out multi-dimensional value speculation and judgment, and integrate the ideological-political elements into the decision-making and practice of solutions.

Interdisciplinary dimension, that is, whether the case can accurately, vividly and completely restore the complex business environment, and realize the cross-border integration of New Business Disciplines and sociology, psychology, history, statistics, computer science and other disciplines in specific business practice scenarios. The interdisciplinary business case is not only related to the multidisciplinary background in the case content, but also requires students to master and use multidisciplinary knowledge and put forward comprehensive solutions to real problems, so as to train students' interdisciplinary thinking and practical ability.

The dimension of technological innovation is whether the case can reflect the impact of the new generation of information technology represented by artificial intelligence on business practice. At the same time, the presentation and teaching methods of cases should also be combined with artificial intelligence, virtual reality and other technologies to enhance the interactive experience of case teaching and stimulate students' interest in learning.

The localization dimension is whether the case can reflect the unique management situation in China and the real management problems faced by Chinese local enterprises in the digital and intelligence era. It is better to choose local enterprises that teachers and students can personally investigate as cases. While providing more first-hand information about cases, it is also conducive to students' testing and revising the results of case study in practice, and improving

students' understanding of China's management situation.

Capability enhancement dimension, that is, whether the case aligns with the current institutional and student contexts, effectively stimulates student engagement and enthusiasm for learning, embodies the student-centered learning approach (the "New Three Centers"), and effectively trains students' ability to apply interdisciplinary knowledge to solve cutting-edge business challenges.

In terms of case evaluation mechanism, it explores the whole life cycle evaluation mechanism covering the entry, use, feedback and revision of cases, as well as the multidimensional evaluation mechanism covering teaching experts, practice experts, teachers and students, and takes case evaluation as an important starting point to improve the construction quality and utilization effectiveness of case database. In the case preparation and entry stage, it is necessary to compare the teaching case quality standards and use scientific evaluation methods such as Delphi method to determine whether the case preparation meets the entry requirements of the case database. In the use phase of the case database, the quality of cases in the case database is evaluated by collecting the feedback of front-line teachers, students and supervision experts on case teaching and taking the actual teaching results as the core. According to the "New Three Centers" theory and Outcome-Based Education (OBE), the evaluation of teaching cases must be based on the achievement of case teaching objectives and the actual output of students' learning[3]. For the achievement degree of case teaching objectives and learning output, we should use the new generation of information technology, combined with the online and offline teaching environment, and comprehensively use qualitative and quantitative means for objective evaluation. In the revision and improvement stage of the case database, according to the evaluation data of the use stage, summarize the successful experience of the cases with high scores, and dynamically update the case content according to the changes of the business environment. For the cases with low scores, it is necessary to discuss the main reasons for the poor teaching effect, and eliminate or revise the cases according to the actual situation. For the updated or revised cases, it is necessary to reconfirm whether they meet the entry requirements of the case database according to the evaluation method at the entry stage. The evaluation indicators and methods of cases also need to be revised and updated according to a certain cycle to meet the latest needs of case database construction.

4. Construction, operation and maintenance of digital teaching case database

The essence of digital teaching case database is an information system with network access function, which carries many functions such as the development, evaluation and utilization of cases. In the context of the digital transformation of higher education, we should focus on improving the convenience of the use of case resources, effectively support hybrid teaching, promote case-based teaching methods in the construction of New Business Disciplines and improve their role in cultivating students' interdisciplinary application ability. We need to explore how to use appropriate platforms and technologies to build, operate and maintain the digital teaching case database.

In the construction phase, it mainly involves the selection of platform and case database architecture, as well as the coding and storage of cases. The technical architecture of the case database should be compatible with mainstream teaching platforms and software to facilitate teachers' rapid retrieval and call of cases in the database during the teaching process, and promote students' autonomous learning and teacher-student interaction in case teaching. For each case, key words, abstracts, teaching guides, etc. should be prepared to correspond to the main content of the case. The presentation of cases should include text, sound, video, animation and other media forms. If conditions permit, the application of virtual reality technology in case presentation and teaching can be explored. A case standardized format template should be prepared to facilitate case writers' standardized operation and improve case entry efficiency.

During the operation phase, the process primarily involves case evaluation, retrieval, presentation, and feedback collection. The case database should automatically record the retrieval statistics of stored cases, collect teaching feedback, and provide technical support for multi-party case evaluations. In the event of system malfunctions, troubleshooting should be conducted promptly, followed by system upgrades and optimization. To improve utilization rates, a user manual for the case database can be compiled, and regular training sessions on database usage and case-teaching techniques should be organized for relevant teachers and students.

During the maintenance phase, key activities include revising, updating, and reorganizing cases, as well as optimizing teaching workflows. The case database architecture should be designed to facilitate case revision, updates, replacement,

and deletion, thereby enabling efficient long-term tracking and maintenance. Additionally, the database must implement copyright protection measures for case content, assign tiered access permissions to different users, and prevent improper use or infringement of materials.

5. Summary

The advancement of next-generation information technologies and shifts in industry competition dynamics are driving profound transformations in organizational management, posing significant challenges to traditional business education. To effectively develop New Business Disciplines, enhancing and refining case-teaching methodologies serves as a pivotal approach. The cornerstone of case-based education lies in constructing a robust teaching case database. Drawing from Hubei Business College's practical experience in building such a database for New Business Disciplines, this paper comprehensively elaborates on the construction model of "1+X" digital teaching case database across three dimensions: case development, evaluation, and technical implementation. The aim is to provide valuable insights and references for peer institutions seeking to advance case-teaching research/practice and accelerate the rollout of New Business Disciplines initiatives.

References:

[1] Yuzhong Sun. 2024. Research on the application of case libraries in accounting master's degree teaching practice. *World Journal of Advanced Research and Reviews*, 24(2): 2071–2076.

[2] Pilz M, Tögel J, Albers S, et al. 2024. Teaching with business cases in higher education: Expectations and practical implementation by lecturers of Management. *The International Journal of Management Education*, 22(3): 101068.

[3] Hofmeister C, Pilz M. 2024. Do Cases Always Deliver What They Promise? A Quality Analysis of Business Cases in Higher Education. *Education Sciences*, 14(1): 7.

Acknowledgement

This research was supported by the 2024 Hubei Business College Teaching Reform Research Project titled: "Research and Practice on Building a '1+X' Digital Teaching Case Database with ideological-political elements under the New Business Disciplines Framework" (Project No.: 202421).

About the author

Hongyi Gui, Senior Engineer, Faculty Member at the School of Economics and Management, Hubei Business College. Research interests: enterprise management and innovation.