

Application of Undergraduate Vocational Education Reform in the Digital Transformation of Marketing

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Abstract: The development of digital technology has prompted various industries to undergo digital and intelligent transformation, leading to a shift from singular job demands to comprehensive and multifaceted trends. This evolution imposes new requirements on educational reforms for talent supply. The deepening development of undergraduate vocational education takes teacher reform as its main guiding principle. Through the use of teaching materials and pedagogical reforms, it seeks to align talent development with job competency demands, while also ensuring the alignment of teaching processes with production processes. By reducing the disparities among industrial chains, educational chains, and talent chains, students are positioned as key participants in the digital transformation of marketing, providing a pool of high-quality talents for digital transformation.

Keywords: Undergraduate Level; Vocational Education Reform; Marketing; Digital Transformation.

1. Insufficiencies of Undergraduate Vocational Education Reform in the Digital Transformation of Marketing

In this study, the primary focus is on investigating the current insufficiencies of undergraduate vocational education reform in the context of the digital transformation of marketing. In vocational education, the emphasis lies in cultivating a greater number of high-quality talents that align with the evolving demands of enterprise positions, ensuring the compatibility of talent development quality with actual job requirements. In the backdrop of digital transformation in marketing, enterprises have intensified the multi-dimensionality and technological aspects of positions. This does not align well with the traditional talent cultivation approach that primarily emphasizes the content of textbooks, teachers, and teaching methods. As a result, the full potential of high-quality vocational education development is not fully realized, leading to the following issues.

1.1. Lack of Teaching Staff Proficient in Digital Technology

The development of digital transformation in marketing occurs in the context of the internet, combining digital technology with production and manufacturing. This form of transformation involves every network node and requires core competencies not only in job skills but also in modern digital technology basics and various managerial capabilities [1].

In most vocational education settings, teachers are primarily selected based on their academic disciplines, with a significant portion directly entering teaching positions after graduating from universities. Participation from industry experts is relatively limited. Data from 2017 reveals that 72% of teaching staff in higher education institutions directly taught after graduating from university. Among them, 70% were teaching core courses and specialty courses. In contrast, only 17%, 10%, and 23% of teachers were directly involved in enterprises [2]. As a result, teachers, who are responsible for imparting both the workflow and work experience to

students, often lack hands-on production guidance experience and the accumulation of digital process technology knowledge. This leads to a situation where teaching is heavily theoretical and light on practical application, hindering the enhancement of students' digital technology and integrated management competencies.

1.2. Limitations in the Application of Teaching Materials

In education, teaching materials serve as carriers of educational tasks and instructional objectives. In current undergraduate vocational education, many teaching materials are authored by teachers themselves. These materials often fail to reflect the digital transformation needs of enterprises within the framework of societal development, lacking features related to industrialization and information fusion. The lack of involvement from industry players during educational material development results in a focus on academic content without sufficient attention to skill assessment or alignment with work processes and positions [3]. Failure to promptly integrate new technologies, business models, and processes from the industry into teaching materials leads to a mismatch with the development of digital transformation in marketing. In the context of digital transformation, the technologies and production scale required by the real economy change rapidly. However, the teaching materials used in education do not match the quantity, quality, and update frequency of various types of online and offline teaching resources. Consequently, they fail to guide students toward in-depth learning, and various innovative integrated teaching materials have not achieved large-scale development [4]. The processes of writing, reviewing, approving, and publishing physical textbooks and resources involve long time periods, causing content to misalign with real economic development. The incorporation of various digital technology concepts into teaching materials is delayed, resulting in the inability of these materials to effectively transmit practical skills.

1.3. Mismatch between Teaching Methods and Digital Development

In the past, teachers selected teaching methods based on the content of teaching materials, consolidating all theoretical knowledge together. They effectively broke down task objectives, competency goals, and quality objectives according to different teaching environments, distributing them into each learning task. Using methods such as on-site testing or final exams, they assessed students' mastery of knowledge content to determine whether the relevant teaching objectives were met [5]. This teaching method primarily centers around theoretical instruction by teachers and systematically trains students in theoretical knowledge.

However, in the context of the digital transformation of marketing, the knowledge and skills related to various types, such as production operation and technological innovation, are undergoing dynamic evolution. When the speed of information updates increases, traditional theoretical-oriented and subject-centered teaching methods fail to effectively enhance students' digital learning skills and qualities. This results in a disconnect between learning content and industrial

model development in teaching, negatively impacting regional economic development and hindering the strengthening of professional talent cultivation and technological innovation [6].

2. Path of Undergraduate Vocational Education Reform in the Digital Transformation of Marketing

In the backdrop of the digital transformation of marketing, related requirements have been proposed for the cultivation of vocational education talents. As shown in Figure 1, the high-quality development of educational reforms focuses on the reform and exploration of vocational education teachers, teaching materials, and pedagogical applications. It drives the adaptability of education, shifts previous teaching philosophies, teaching models, and teaching methods, strengthens the cultivation of students' vocational literacy and versatile skills, ensures the alignment of teaching objectives with job competency, and maintains consistency between teaching and practical work processes.

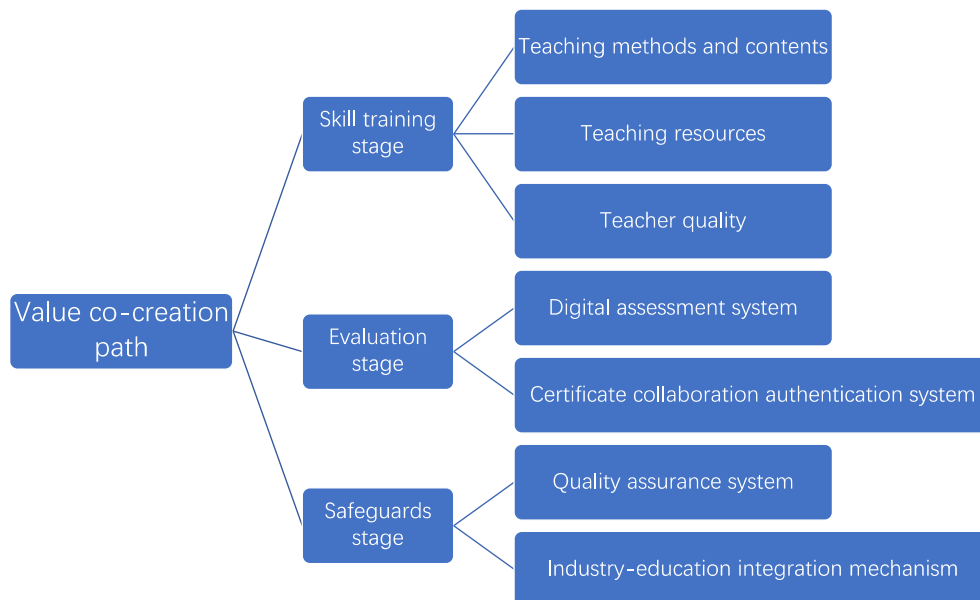


Figure 1. Value co-creation path

2.1. Strengthening the Cultivation of Teaching Staff Resources

During the process of digital transformation in marketing, new technological developments bring about novel business models and modes of development [7]. After establishing diverse teams of teaching staff, institutions need to leverage various training methods to ensure alignment between teaching and technological development. For instance, institutions can devise plans for cultivating teaching resources at the school, provincial, and national levels, establish renowned teacher studios, and facilitate the involvement of teachers in enterprises. This allows them to track industrial technologies, explore the laws and trends of practical production work, and enhance the targeted adaptability of talent cultivation in the context of digital transformation.

Teachers need to maintain sensitivity to the development of digital technology in the market. This involves integrating digital industry concepts into classrooms and introducing emerging business models, technologies, and processes from various industries into existing teaching methods. This

approach stimulates students' enthusiasm for learning industrial technology. By consistently enriching the teaching staff and integrating theoretical and practical teaching, institutions can guide students to perceive the coherence and integration of theory and practice. Particularly during practical sessions, attention should be given to the ever-evolving technical issues and cutting-edge concerns in the industry. This ensures effective and targeted solutions, moving away from the traditional scenario-based approach based on textbook applications. This shift enables students to experience a sense of achievement in mastering both theory and skills.

Teachers should promptly relay new technologies and work models from the digital transformation of marketing to students [8]. In school-organized learning and training sessions, students should experience the application of theoretical knowledge and build a detailed knowledge framework and skill system through practical exercises. Therefore, by innovating the methods of cultivating teachers' professional qualifications, reforms can be initiated at the source of educational development to ensure consistency and

coherence in education and adapt to the current context of digital transformation.

2.2. Promoting Teaching Material Application Reform

In the context of the digital transformation of marketing, teaching materials, as carriers of education, should maintain high update frequencies. Particularly, in the widespread application of new-format teaching materials, deletions and adjustments of content modules related to the digital transformation of marketing should be made. The update frequency within the teaching materials should far exceed that of physical textbooks. When aligning with professions and actual positions, new content is introduced due to increased market development demands, or existing work content is merged. This requires incorporating relevant additions into corresponding projects and tasks in teaching materials [9].

For instance, in the context of digital development in international trade, improving the overall clearance speed of trade goods requires the integration of customs supervision and inspection processes. This is known as "customs and inspection integration," or "guan jian rong he" in Chinese. This system was implemented by China's customs in 2018 to enhance overall clearance efficiency. However, recent years have seen the continued involvement of separate clearance and inspection stages in teaching materials, resulting in a mismatch between the content used in teaching and actual economic and social development.

Concurrently, teaching materials should assume an active role in undergraduate vocational education, acting as intermediaries that provide students with a robust theoretical foundation. By doing so, they contribute to the cultivation of vocational education that is both scientifically grounded and forward-looking.

The data presented in Table 1 illustrates a comparison between the demand and supply of vocational education talents across various categories. It highlights the need for a strategic alignment between the education provided and the requirements of the job market. For instance:

(1) In the transportation category, there is a maximum demand for talents within the Finance, Commerce, and Trade sectors. Consequently, educational institutions should ensure that their curriculum adequately prepares students with the necessary skills and knowledge for these roles.

(2) The Civil Engineering and Architecture category showcases a balanced alignment between the maximum demand and supply capacity. However, there is a noteworthy discrepancy as the maximum supply includes the Education and Physical category, indicating potential mismatches in skillsets and career pathways.

(3) The Agriculture, Forestry, Animal Husbandry, and Fishery category faces a maximum demand within the Equipment Manufacturing sector, while the maximum supply capacity lies in the Civil Engineering and Architecture category. This misalignment might necessitate adjustments in educational offerings to bridge the skills gap.

(4) The Energy, Power & Materials category's maximum demand is within the Tourism sector, while the maximum supply capacity is in the Electronic Information category. This incongruity underlines the importance of targeted education to meet industry-specific needs.

(5) The Equipment Manufacturing category displays a balanced alignment between supply and demand within its own sector. This suggests that educational efforts have been relatively successful in this area.

(6) The Biology and Chemical Industry category's talent demand-supply dynamics are not directly matched with the Medicine and Hygiene category, implying potential challenges in training students for roles in these fields.

Table 1. Comparison of supply and demand of vocational education talents

Serial Number	Maximum demand	Maximum supply capacity	Maximum supply
1	Transportation category	Finance, commerce and trade category	Finance, commerce and trade category
2	Civil engineering and architecture category	Civil engineering and architecture category	Education and Physical category
3	Agriculture, forestry, animal husbandry and fishery category	Equipment manufacturing category	Civil engineering and architecture category
4	Energy, power & materials category	Tourism category	Electronic information category
5	Equipment manufacturing category	Electronic information category	Equipment manufacturing category
6	Biology and chemical industry		Medicine and hygiene category

Therefore, it is imperative for educational institutions to adapt their curriculum and content delivery in response to the ever-evolving needs of the industry. This entails a focus on continuously evaluating and revising digital resources and electronic teaching materials to ensure their relevance to current industry trends. This approach facilitates the seamless and accurate dissemination of industry-specific knowledge to students amidst the dynamic landscape of industrial development.

In the application of new social digitization, informatization, and three-dimensional teaching materials, the most prominent characteristic is "multidimensional presentation." This entails the comprehensive utilization of advanced technologies such as professional virtual simulation to develop a multitude of innovative module-based teaching

resources [10]. Leveraging the inclusion of QR codes in teaching materials, students can access content and task scenarios related to projects. With the support of actual cases and technology, these resources generate novel online teaching materials. Additionally, in the use of interactive electronic teaching materials, open-source programs can be employed. After validation, these programs yield final output results, enabling students to perceive more intuitive characteristics of job-related technologies and real-world application effects.

The multidimensional presentation of teaching resources has brought about significant transformations in education, particularly in the following aspects:

First and foremost, the innovative use of multidimensional teaching materials offers students a more immersive learning

experience. Through advanced technologies like professional virtual simulation, students can actively engage in various practical scenarios within virtual environments, gaining insights into different aspects of real work settings. For instance, in the field of marketing, students can practice product promotion and sales strategies within a virtual market, enhancing their understanding of the practical applications of course content.

Secondly, multidimensional teaching resources play a crucial role in fostering students' comprehensive competencies. Traditional teaching methods might prioritize theoretical discussions, but the application of modern technology emphasizes practical application and interdisciplinary integration. When dealing with complex projects and case studies, students need to draw upon a range of skills and knowledge, fostering their ability to solve multifaceted problems. This equips them to better adapt to the increasingly complex and dynamic workplace environment.

Furthermore, multidimensional teaching resources also offer educators opportunities for innovative teaching approaches. These advanced technologies enable teachers to design more engaging and interactive content, igniting students' interest in learning. For example, teachers can link real-world case studies to online materials using QR codes, enabling students to delve deeper into related topics outside of class. The use of interactive electronic teaching materials allows students to learn at their own pace and according to their interests, promoting a more autonomous grasp of knowledge.

In conclusion, the application of multidimensional teaching resources has brought about positive impacts across various dimensions. It enriches educational content, enhances educational quality, and cultivates students' practical skills and innovative thinking. With technology's continuous evolution, there is reason to believe that education will progress towards a more diverse, enriched, and personalized direction.

2.3. Shift in Teaching Philosophy

Currently, industrial development is trending towards the integration of digitization and industrialization, with complex technological applications evident in enterprises. In organizational structures, a flattened development pattern is emerging. As enterprises undergo intelligent transformation and upgrading, the utilization of multifaceted technical talents has become crucial for human resources.

During the process of reforming teaching methods, emphasis should be placed on updating and reforming teaching philosophies to ensure alignment with the demands of societal positions. This involves transitioning from traditional "disciplinary thinking" and enhancing the cultivation of students' professional skills. When conducting teaching, the alignment of industrial job demands and competency should serve as a guiding principle. This promotes the holistic development of professional groups, focuses more on vocational and typological characteristics, and combines relevant work processes and job responsibilities. This alignment fosters the reconstruction of teaching content, reshapes teaching philosophies, and facilitates the rebuilding of teaching methods.

In practical teaching operations, the integration of teaching with the digital production process of marketing is essential. Within actual job positions, the work processes of the digital transformation of marketing are divided into specific

segments. Based on these segments, comprehensive teaching projects are developed. Multiple subjects are integrated into teaching, perfecting the compilation of project-based teaching materials and digital resources. The processes of various job types are encoded and input into electronic learning platforms, ensuring the overall design of teaching and the connection between sequential projects. This allows students to progress orderly, overcome difficulties in each task, deepen their understanding and mastery of teaching tasks, and enhance their digital technology skills through project practice.

Teachers can leverage various technological means such as Internet+ technology and big data analysis to strengthen the analysis of students' participation in class. By understanding students' learning motivation, attitudes, and outcomes, teachers can employ targeted approaches. Independent learning records are established for students, and personalized learning resources are provided. Based on students' abilities, matching teaching scenarios are constructed, ultimately enhancing the effectiveness of classroom education and school performance.

3. Conclusion

In the current context of the digital transformation of marketing, job positions require higher levels of technological versatility from personnel. This necessitates vocational education to focus on high-quality development in line with the development trends of the era. During the process of implementing educational reforms, exploratory reforms should be conducted for teachers, teaching materials, and teaching methods. Diverse and cross-disciplinary teaching resources should be established, combining the development of Internet technology to strengthen the use of online and offline teaching resources. This involves constructing novel learning materials and providing better educational resources for students' skill development.

In the context of undergraduate vocational education reform, a deep exploration of teaching philosophy, teaching models, and teaching methods is vital. The deepening implementation conditions, system construction, and institutional safeguards of various educational reforms should be considered to enhance the quality of talent cultivation in China's vocational education. This not only ensures high-quality development in vocational education but also drives high-quality digital transformation in industries across regions.

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