Integration of Information Technology in Higher Vocational Economic and Trade Disciplines: Inputs for a Development Plan

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Abstract. This study focused on the integration of information technology in higher vocational economics and trade subjects. It explored how teachers integrate IT in the teaching of vocational economics and trade subjects, explored the effectiveness of the integration of IT in vocational economics and trade subjects based on the available data, explored the level of support from school management for the integration of IT in vocational economics and trade subjects, and additionally, found out how respondents evaluated the integration of IT in vocational economics and trade subjects. Based on the results of the study, what training needs analysis can be proposed to improve the integration of IT in education.

Keywords: information technology; economics and trade disciplines; marketing programs; integration; integrated practice system

1.Introduction

Driven by the integration of information technology in economic and trade majors, the teaching of economic and trade majors has been transformed from traditional task-driven to data-driven, and students' personalized characteristics are assessed through the analysis of massive learning data and learning plans are pushed based on such characteristics to promote the customized delivery of teaching content, teaching modes, and teaching methods, so that personalized learning can be achieved.[1] Under the support of big data, the teaching of economic and trade majors has been transformed into data-driven. Learning supported by big data is the deep mining of learning data, from which valuable features are extracted, and then the valuable information is accurately delivered to teachers and students to facilitate teaching and learning activities. [2]

Under the premise of carrying out the teaching of an integrated marketing practice system in the economics and trade disciplines, it explores what factors affect the users' willingness to continue to adopt the teaching implementation of information technology integration, and analyses the relationship that exists between the different factors such as the teaching environment, administrative support, and the willingness of teachers and students related to the integration of information technology in the higher vocational economics and trade

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disciplines, and the effects of information technology integration in terms of the classroom environment, the quality of teaching and the motivation of the students.[3]

This study focused on the integration of information technology in higher vocational economics and trade subjects. It explored how teachers integrate IT in the teaching of vocational economics and trade subjects, explored the effectiveness of the integration of IT in vocational economics and trade subjects based on the available data, explored the level of support from school management for the integration of IT in vocational economics and trade subjects, and additionally, found out how respondents evaluated the integration of IT in vocational economics and trade subjects. Based on the results of the study, what training needs analysis can be proposed to improve the integration of IT in education.

2.Synthesis

The literature reviewed in this study covers various aspects of the integration of information technology with economics and trade professional curriculum, highlighting key findings and proposals.

Researchers have recognized the importance of reforming economics and trade courses to meet the evolving demands of the job market. Emphasis is placed on talent development, interdisciplinary knowledge, and adaptability. To achieve this, colleges and universities are urged to establish clear objectives for talent cultivation, strengthen students' interdisciplinary skills, enhance moral, ethical, and scientific qualities, promote innovation and entrepreneurship, improve language skills for international communication, deepen curriculum and teaching reforms, collaborate with industry partners, and explore international partnerships.

In the context of Industry 4.0, Li Liguo's approach suggests integrating science and humanities education to create an interdisciplinary professional education model. This model emphasizes a balanced curriculum with a focus on basic theories and knowledge, interdisciplinary connections, practical courses, and curriculum personalization. It is believed that this approach benefits all majors, including international trade, by enhancing students' competitiveness and adaptability.

Globally, the integration of information technology into education has evolved through various stages. Countries emphasize factors such as infrastructure development, teacher training, and fostering independent and collaborative learning skills.[4]

Chinese researchers have contributed significantly to the theoretical and practical aspects of IT-curriculum integration in higher education. Their work emphasizes high-quality course and online course construction, offering valuable insights into IT integration in teaching and management.

Overall, the reviewed literature underscores the importance of preparing students for the digital age by integrating information technology into economics and trade professional curriculum. It emphasizes a balanced and adaptable education that equips students with the skills and knowledge needed to thrive in a rapidly changing job market.

3.Conceptual Framework

The integration of information technology into the teaching of vocational economics and trade disciplines is a multifaceted process that draws on various educational theories to enhance the learning experience. [5]

Information technology serves as a tool to enhance communication, diversify information sources, and provide flexible learning channels, ultimately contributing to a more effective and dynamic educational experience.

In order to address the needs related to the above, from the point of view of curriculum elements, it is necessary to apply information technology in an appropriate manner, taking into account a variety of aspects ranging from the integration of information technology with vocational economics and trade disciplines, the effectiveness of information technology integration , the provision of administrative support for the integration of information technology with vocational economics and trade disciplines, the advantages and disadvantages of information technology, and so on. [6]The basic framework for the above integration is shown in Figure 1.

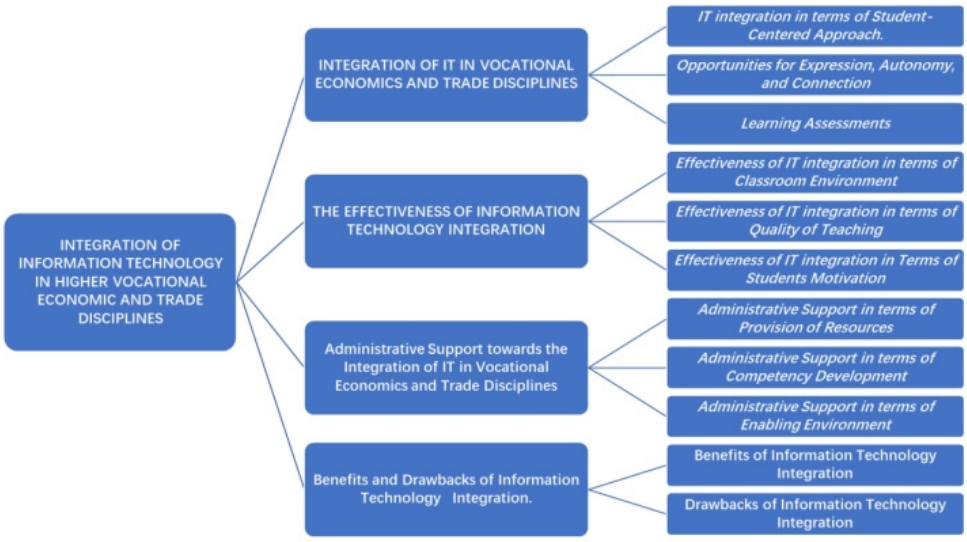

Figure 1 Research Paradigm

The integration of information technology into the field of education, particularly in economics and trade courses, necessitates a holistic perspective considering the intricate dynamics within the teaching system. While many studies have analyzed factors contributing to resistance in teaching method reforms, they often focus on individual elements within the teaching system, such as teachers' attitudes, institutional support, or students' learning capabilities, without a systematic and comprehensive examination. Addressing the integration of information technology into economics and trade courses is a complex process, and its successful implementation requires attention to several core issues: creating a learner-centric environment using information technology, developing comprehensive curriculum resources,

providing positive learning demonstrations, optimizing teaching modes supported by technology, and enhancing students' information technology literacy.

4.Proposed Training Needs Analysis

Table 1 show shows the training needs analysis using Pearson correlation.

Table 1 Pearson Correlation

Pearson correlation

	A. IT integration in terms of Student-Centered Approach.	B. Opportunities for Expression， Autonomy， and Connection	C. Learning Assessments
A. Effectiveness of IT integration in terms of Classroom Environment	0.182**	0.208**	0.169**
B. Effectiveness of IT integration in terms of Quality of Teaching	0.227**	0.232**	0.307**
C. Effectiveness of IT integration in Terms of Students Motivation	0.199**	0.162**	0.223**
A. Administrative Support in terms of Provision of Resources	0.238**	0.258**	0.286**
B. Administrative Support in terms of Competency Development	0.239**	0.199**	0.265**
C. Administrative Support in terms of Enabling Environment	0.340**	0.258**	0.239**

* $p<0.05$ ** $p<0.01$

According to the table, the correlation between A. IT integration in terms of Student-Centered Approach, B. Opportunities for Expression, Autonomy, and Connection, and C. Learning Assessments with A. Effectiveness of IT integration in terms of Classroom Environment, B. Effectiveness of IT integration in terms of Quality of Teaching, and C. Effectiveness of IT integration in Terms of Students Motivation can be analyzed using Pearson correlation coefficients. The specific analysis is as follows:

A. IT integration in terms of Student-Centered Approach shows significant positive correlations with A. Effectiveness of IT integration in terms of Classroom Environment (correlation coefficient = 0.182), B. Effectiveness of IT integration in terms of Quality of Teaching (correlation coefficient = 0.227), and C. Effectiveness of IT integration in Terms of Students Motivation (correlation coefficient = 0.199).

B. Opportunities for Expression, Autonomy, and Connection also show significant positive correlations with A. Effectiveness of IT integration in terms of Classroom Environment (correlation coefficient = 0.208), B. Effectiveness of IT integration in terms of Quality of

Teaching (correlation coefficient = 0.232), and C. Effectiveness of IT integration in Terms of Students Motivation (correlation coefficient = 0.162).

C. Learning Assessments exhibit significant positive correlations with A. Effectiveness of IT integration in terms of Classroom Environment (correlation coefficient = 0.169), B. Effectiveness of IT integration in terms of Quality of Teaching (correlation coefficient = 0.307), and C. Effectiveness of IT integration in Terms of Students Motivation (correlation coefficient = 0.223).

Similarly, the correlation between A. Administrative Support in terms of Provision of Resources, B. Administrative Support in terms of Competency Development, C. Administrative Support in terms of Enabling Environment, and A. Effectiveness of IT integration in terms of Classroom Environment, B. Effectiveness of IT integration in terms of Quality of Teaching, and C. Effectiveness of IT integration in Terms of Students Motivation can also be analyzed using Pearson correlation coefficients. The results show positive correlations for all three factors.

A. Administrative Support in terms of Provision of Resources has significant positive correlations with A. Effectiveness of IT integration in terms of Classroom Environment (correlation coefficient = 0.177), B. Effectiveness of IT integration in terms of Quality of Teaching (correlation coefficient = 0.215), and C. Effectiveness of IT integration in Terms of Students Motivation (correlation coefficient = 0.194).

B. Administrative Support in terms of Competency Development shows significant positive correlations with A. Effectiveness of IT integration in terms of Classroom Environment (correlation coefficient = 0.129), B. Effectiveness of IT integration in terms of Quality of Teaching (correlation coefficient = 0.194), and C. Effectiveness of IT integration in Terms of Students Motivation (correlation coefficient = 0.155).

C. Administrative Support in terms of Enabling Environment exhibits significant positive correlations with A. Effectiveness of IT integration in terms of Classroom Environment (correlation coefficient = 0.224), B. Effectiveness of IT integration in terms of Quality of Teaching (correlation coefficient = 0.196), and C. Effectiveness of IT integration in Terms of Students Motivation (correlation coefficient = 0.243).

In conclusion, the analysis suggests that there are positive correlations between the different factors related to IT integration and the effectiveness of IT integration in terms of classroom environment, quality of teaching, and students' motivation.

5.Summary of Findings

This study addressed the research conducted on the integration of information technology with economics and trade subjects. Various aspects were analyzed, such as how teachers integrate IT in the teaching of economics and trade subjects in vocational colleges and universities, the effectiveness of the integration of IT in vocational economics and trade subjects, the level of support from the school administration for the integration of IT in vocational economics and trade subjects, the assessment of respondents on the integration of IT in vocational economics

and trade, and the recommendations that can be made for the analysis of the training needs based on the results of the study.

It is not uncommon to see a promising pedagogical innovation technology with application prospects being resisted from teachers or students when it is integrated into teaching. Similarly, to promote the development of integrated marketing practice system teaching is also a gradual and difficult process, especially when there is a preliminary attempt to carry out the integrated marketing practice system teaching teachers and then withdrew from the practice, or students in the development of integrated marketing practice system teaching in a negative, resistant attitude phenomenon, will deepen the researchers, administrators, and teachers to carry out the integrated practice system of marketing teaching. When students withdraw from such practices or when students have negative and resistant attitudes toward teaching the integrated marketing practice system, it deepens the concerns of researchers, administrators, and teachers about whether teaching the integrated marketing practice system can be sustained and deeply applied.

This study provided a theoretical explanation of the process of integrating information technology with economics and trade subjects. It is made clear that in a good practical teaching system, conducting marketing integrated practice system teaching can only be truly integrated into the system if it is accepted by both teachers and students, forming a new educational impact and playing a new educational role.

In conclusion, the analysis suggests that there are positive correlations between the different factors related to IT integration and the effectiveness of IT integration in terms of classroom environment, quality of teaching, and students' motivation.

6.Conclusions

Based on the results of the study, the following conclusions were drawn:

1. On the basis of fully grasping the characteristics of the curriculum of economics and trade disciplines, the integration of information technology and the curriculum requires the construction and reconstruction of the information resource base of the curriculum of economics and trade disciplines. [7]

2. The integration of information technology and economics and trade courses should be carried out reasonably on the basis of full consideration of the characteristics of the courses themselves, the characteristics of the course content and the "compatibility" and "appropriateness" of information technology and information-based learning. "Integration". [8]

3. The degree of support from school administration for the integration of IT with vocational economics and trade subjects. Increase the administrative support of information technology, apply information technology appropriately in the whole process of curriculum resource construction, curriculum learning environment creation, curriculum content construction, curriculum teaching implementation, curriculum management, curriculum evaluation, etc.

4. In the context of the digital era, the integration of IT with the curriculum of economics and trade disciplines, with more diversified course content, more multidimensional course presentation, and more varied course teaching methods, is favored by many teachers and

students, and has gradually led to the formation of a student-centred teaching methodology, which allows students to learn on their own through online courses, simulation and practice systems and other means.

5. Strategies and methods of informatisation teaching practice of economics and trade disciplines should be reasonably applied in the light of the specific conditions and characteristics of the curriculum and practice environment, so as to provide policy makers of universities who are pushing forward to carry out the teaching of integrated practice system of marketing , teaching management departments, and teachers to provide valuable references.

7.Recommendations

Based on the conclusions of the study, the following recommendations are offered:

1. Innovation of education concept. Informatisation education aims to cultivate students' advanced thinking ability and innovative quality, advocates a new view of talent and teaching, and educators should establish the confidence of technology-enabled education, master the law of reconstructing the roles of educators and learners, and play the role of data informatisation, culture informatisation and teaching informatisation.

2.Construction and reconstruction of the information resource base of the curriculum of economics and trade disciplines. This is an important resource base for the integration of information technology and the curriculum of economics and trade disciplines, including the construction of a course resource material library, a cumulative course resource knowledge element, resources suitable for classroom teaching, suitable for activity courses, suitable for networked learning, suitable for mobile learning, and so on.

3. Increase the administrative support for information technology, and apply it appropriately in the whole process of curriculum resource construction, curriculum learning environment creation, curriculum content construction, curriculum teaching implementation, curriculum management and curriculum evaluation.

4. Gradually develop student-centred teaching methods, allowing students to learn independently through online courses and simulated practice systems.

5. Build an information-based learning environment. An information-based learning environment should provide open and integrated learning resources, personalised learning services, well-documented learning data and spatially connected learning communities.

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