

THE IMPACT OF FOUR COMPONENT INSTRUCTIONAL DESIGN ON CURRICULUM IMPROVEMENT OF DANCE PERFORMANCE MAJOR IN HEBEI ARTS VOCATIONAL COLLEGE, CHINA

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Abstract

This study focus on applying the Four Component Instructional Design (4C/ID) model, introduced by Jeroen van Merriënboer in 1997, for the development and improvement of the dance performance curriculum at Hebei Vocational Art College (HVAC). The research is based on a case study that addresses issues such as curriculum fragmentation and inconsistency resulting from reliance on individual teachers' experiences. Using the "Collective Dance Performance" courses in the dance performance major as an example, the 4C/ID model was employed to restructure the curriculum, aiming to create a teaching design and implementation plan tailored to the characteristics of Chinese vocational dance education. The findings indicate that the 4C/ID model provides strong guidance for the systematic design of dance curriculum content. The curriculum aligns precisely with professional job tasks, and the teaching process corresponds to the career development patterns in the dance profession. This significantly enhances the practical value of the curriculum and improves students' employ-ability. Additionally, the model streamlines class time and enhances dance teachers' ability to apply pedagogical knowledge to solve teaching challenges. In conclusion, the 4C/ID model effectively enhances the systematic and progressive instructional design of dance courses at and offers a reference standard for improving dance curriculum at other tertiary dance education institutions. It contributes to the exploration of how higher vocational dance education in China can align curriculum content with real-world job competencies to enhance teaching effectiveness.

Keywords and phrases: Dance curriculum, dance performance majors, Four Component Instructional

Design, curriculum development, vocational dance education.

INTRODUCTION

The Four Component Instructional Design (4C/ID) model introduced by Jeroen van Merriënboer in 1997, represents a paradigm shift in contemporary instructional design theory, with broad applicability in vocational and higher education (Sheng and Ma, 2010: 51; Hu, 2023: 63). This study examines the experience of applying the 4C/ID model, for the development and improvement of the dance performance curriculum at Hebei Vocational Art College (HVAC). Although the 4C/ID model has been widely applied in other disciplines within vocational education, there has been no previous experiment involving its use in the development and improvement of arts-related curricula (Yang and Liu, 2022: 274).

Previously, dance courses often relied on individual teachers' experiences, resulting in fragmented and inconsistent content with unclear structure and a lack of systematic instructional design. This made the curriculum less competitive in quality compared to other vocational education disciplines. It is the first application of the 4C/ID model in the development and improvement of arts courses in higher vocational education. To address these issues, the study employs a case study approach, using the "Collective Dance Performance" course in the dance performance major as an example. The 4C/ID model was utilized to restructure the curriculum, aiming to create a teaching design and implementation plan tailored to the characteristics of Chinese vocational dance education. It contributes to the exploration of how higher vocational dance education in China can align curriculum content with real-world job competencies to enhance teaching effectiveness. However, due to practical constraints, this paper cannot provide a comprehensive review of all courses covered in the Dance Performance programme.

METHODOLOGY

Case Study

This study used a case study approach to gain a comprehensive understanding of the impact and process of implementing the 4C/ID model for dance curriculum improvement in the specific context of the dance performance programme. Case study methodology is a qualitative research approach that enables an in-depth exploration of complex phenomena within their real-life context (Walker, 1974: 54). It is particularly useful when the boundaries between the phenomenon being studied and the context

are not clearly defined (Baxter & Jack 2008: 545). Somekh & Lewin (2005: 53) study states that case study aimed at engaging with and reporting the educational activities that it can take an example of an activity — 'an instance in action' — and use multiple methods and data sources to explore it and interrogate it.

According to Yin (2003: 24), when the focus of the study is to answer “how” and “why” questions, you should use a case study approach. This paper employs a case study methodology to explore the intricate dynamics of pedagogical design in dance performance programs, situated within the context of dance as an educational practice. It investigates how to enhance programs that are traditionally fragmented and based on personal experiences, and why these improvements are necessary. This approach facilitates a comprehensive understanding of both the processes and outcomes associated with educational interventions in this field. When the approach is applied correctly, it becomes a valuable method for education science research to develop theory, evaluate programs, and develop interventions (Baxter & Jack 2008: 544). This methodology not only supports the objectives of the current research but also serves as a valuable reference for future studies aiming to explore the application of instructional design models in various educational settings.

Principles on The Four Component Instructional Design (4C/ID)

In the field of vocational education and skills training, how to effectively design and implement instructional programmes has always been the focus of research. The Four Component Instructional Design (4C/ID) model, as an innovative instructional design framework, provides a powerful solution to this challenge. With the deepening of research, the 4C/ID model has been gradually improved, and has been widely used and validated in many fields.

The 4C/ID model introduced by Jeroen van Merriënboer in 1997, represents a paradigm shift in contemporary instructional design theory, with broad applicability in vocational and higher education (Sheng and Ma, 2010: 51; Hu, 2023: 63). The model was developed and refined over the next two decades, and in 2007 Jeroen van Merriënboer published *Ten Steps to Designing Complex Learning*, which further refined the model into a systematic design pathway. At its core lies an emphasis on learning task-centred instructional design, which aims to integrate knowledge, skills and attitudes through complete tasks to facilitate learning transfer. The quadratic instructional design model is considered one of the most competitive instructional design theories of our time, and is particularly

relevant in improving instructional efficacy, focusing on complex learning, and enabling learning transfer (Sheng & Ma, 2018, Francom, 2018, Güney, 2019, Costa, Miranda & Melo, 2022).

Merriënboer & Kester (2005: 74) reported that four based component included: Learning task, supportive information, procedural information and part-task practice. They are integral components of the instructional design process. Learning tasks are the central activities that learners engage in, while supportive information provides the necessary background and strategies to creatively solve problems. Procedural information offers step-by-step instructions to follow, and specialized training involves focused practice on specific elements to achieve mastery and automation. Together, these components form a structured approach to teaching and learning that is designed to enhance the acquisition of complex skills and knowledge (Yang & Liu, 2022: 14).

This model is grounded in cognitive psychology and emphasizes the importance of integrating different skills and knowledge to achieve the successful completion of complex tasks and carefully attends to tit rating a learner's cognitive load, aiming to always keep students in their zone of proximal development (Van Merriënboer & Sluijsmans. 2009: 55; Daniel, Stojan, Wolff, Taqui, Glasgow, Forster & Cassese, 2018: 276).

A multi-institutional group of medical educators at the University of Michigan Medical School in the United States, following a case-demonstration teaching experiment using the 4-C/ID model, sought to make the 4-C/ID model more broadly accessible to medical educators and proposed that it was a replicable process that could be applied to the design of instruction for complex skills involved in teaching other disciplines (Daniel, Stojan, Wolff, Taqui, Glasgow, Forster, & Cassese 2018: 278). Chinese scholars Sheng Qunli et al. (2010) translated and introduced the "Quadratic Instructional Design" into China. Liu Q. et al. (2016) applied the theory of "Quadratic Instructional Design" to the instructional design of 32 courses in eight different subject areas. However, there are relatively few studies on the application of the theory of '4C/ID' to vocational education in the arts. In particular, it is the first time that it is applied to a dance programme, which provides a gap for further exploration in this paper based on the 4C/ID model to guide the improvement of the dance programme.

Data Collections

The data collection for this study centered on the Collective Dance Performance course within the Dance Performance programme. The aim was to gather comprehensive information about the course

to facilitate its development and reconstruction. The data collection methods used were qualitative in nature and included in-depth interviews, focus group discussions with dancers, dance instructors, and graduates of the dance performance major, analysis of curriculum documents, and observations of the curriculum implementation process.

In-depth interviews were conducted with practicing professionals who had competently performed dance, focusing on their experiences and insights into the professional workplace. These interviews aimed to determine whether the data content corresponds to the real tasks of the dancer's occupational workplace and aligns with the professional training objectives. The purpose was to provide a rich, three-dimensional understanding of the development and reconstruction of the curriculum content.

Focus group discussions were also held with dancers, dance instructors, and graduates of the dance performance major to gain a broader perspective on the curriculum and its practical applications. These discussions helped to validate the data collected through interviews and provided additional insights into the curriculum's effectiveness and alignment with professional standards.

Analysis of curriculum documents provided a structured overview of the course content and its intended learning outcomes. Observations of the curriculum implementation process allowed for an assessment of the practical application of the course materials and how they were received by the students. Overall, the data collection methods were chosen to ensure a comprehensive and accurate understanding of the Collective Dance Performance course, enabling a thorough analysis of its alignment with the real-world tasks of the dancer's occupational workplace and professional training objectives.

Data Analysis

The data analysis is structured around the seven phases of course development outlined by the Four-Component Instructional Design (4C/ID) model (Yang & Liu, 2022: 5). These phases are: I) Identify real-world tasks; II) Design learning task categories; III) Determine constituent skills; IV) Design learning tasks; V) Extract and organize learning content; VI) Select instructional strategies; VII) Design instructional implementation plans.

The following Data Analysis Framework was prepared based on the steps of curriculum development, conditions for data analysis, and key points for post-interview data collection.

Table 1. Data Analysis Framework

Course Development Steps	Data Analysis Conditions	Key Points of Data Collection
Identify Real-World Tasks	Clarify which real-world tasks the course corresponds to. Describe the application scenarios students will encounter after graduation. Understand the competency boundaries of real-world tasks.	Typical tasks in the dancer' s work. Developmental characteristics of tasks in the dancer' s profession.
Design Learning Task Categories	Rank real-world tasks based on their complexity, explain the reasons for the ranking, and categorize the tasks by difficulty level.	Detailed process by which dancers complete performance tasks.
Determine Constituent Skills	Analyze the hierarchical relationships among the abilities required to complete tasks. Conduct vertical analysis of the difficulty levels of task skills.	Technical standards for completing group dance performances.
Design Learning Tasks	Analyze learners' expected academic behaviors and goals. Analyze the regenerative and creative characteristics of learning tasks.	Challenging tasks and routine tasks in the dancer' s work.
Extract and Organize Learning Content	Support regenerative learning tasks with procedural content. Provide individualized supportive content for creative learning tasks.	Routine instructional procedures. Non-routine stage performances.
Select Instructional Strategies	Consider students' foundational abilities, learning contexts, and relevant instructional conditions. Assess teachers' instructional experience and the capabilities of the teaching team.	Foundational abilities of students. Learning contexts. Teaching-related conditions. Teachers' instructional experience. Teaching team's capabilities.
Design Instructional Implementation Plans	Develop process-based and outcome-based instructional evaluation criteria. Establish an overall course evaluation system for the dance performance major.	Process-based and outcome-based instructional evaluation criteria. Overall course evaluation system for the dance performance major.

Initially, this study analyzed and clarified which real-world tasks the course corresponds to, described the application scenarios students will encounter after graduation, and understood the competency boundaries of these real-world tasks. Key points included identifying typical tasks in the dancer's work and understanding the developmental characteristics of tasks within the dancer's

profession. Subsequently, we ranked real-world tasks based on their complexity, explained the reasons for the ranking, and categorized the tasks by difficulty level, providing a detailed understanding of how dancers complete performance tasks.

Next, the researcher analyzed the hierarchical relationships among the abilities required to complete tasks, conducted a vertical analysis of the difficulty levels of task skills, and established technical standards for completing group dance performances, forming a comprehensive set of learning objectives at different levels. Following this, the anticipated academic conduct and objectives of learners, in addition to the regenerative and creative attributes of learning tasks, were subjected to further examination through the analysis of interview data. Tasks that were perceived as challenging and those that were regarded as routine in the context of dancer work were distinguished in order to guarantee that the design of learning tasks would be capable of addressing these requirements.

In the subsequent stage, attempt to use program content to support regenerative learning tasks with procedural content and provided individualized supportive content for creative learning tasks, identifying routine instructional procedures alongside non-routine stage performances to ensure that learning content was both comprehensive and practical. Furthermore, the researcher considered students' foundational abilities, learning contexts, and relevant instructional conditions, assessing teachers' instructional experience and the capabilities of the teaching team to ensure that instructional strategies were appropriate and effective.

Ultimately, a system of assessment criteria was devised, encompassing both process-based and outcome-based indicators, with the objective of evaluating the efficacy of the teaching and learning strategies employed in the Dance Performance programme. This system was designed to provide a comprehensive evaluation of the programme, ensuring the stability and alignment of its implementation plan with the course teaching objectives. Through these structured phases, the data analysis provided a comprehensive framework for understanding and enhancing the curriculum development process, ultimately supporting the overall effectiveness of the dance performance course at Hebei Vocational Arts College.

RESULTS

The 4C/ID model brings a structured approach to dance education, bridging the gap between the intuitive and emotional aspects of art and the rational and logical aspects of educational design. By

integrating different skills and knowledge, the 4C/ID model ensures that learners are always challenged appropriately, keeping them within their zone of proximal development. This model not only transforms the fragmentation and inconsistency of the traditional dance curriculum into a coherent and systematic one, but also closely aligned with the practical competencies required in the professional dance industry. This systematic improvement has made the dance curriculum more relevant, competitive, and effective, directly contributing to the enhancement of vocational art education.

The study marks the first comprehensive application of the 4C/ID model in developing a dance curriculum. This pioneering effort serves as a demonstrative model for other arts and vocational education programs. The success of this implementation at HVAC emphasized its role in bridging the gap between usual educational practices and modern instructional design theories, showcasing the potential of the 4C/ID model to transform conventional arts education into a more structured and professionally aligned curriculum. Its successful application in this study positions it as a reference model for future curriculum development efforts in the arts. The effective implementation of the model at HB Vocational Arts College (HVAC) highlights its ability to bridge the gap between conventional educational practices and contemporary instructional design theory. It fully demonstrates the trans-formative potential of the 4C/ID model in transforming traditional arts education into a more structured and professional curriculum. This meaningful exploration and implementation provides a reference point and benchmark for future curriculum development initiatives in the field of arts education.

CONCLUSIONS

In conclusion, the 4C/ID model effectively enhances the systematic and progressive instructional design of dance courses at HVAC and offers a reference standard for improving dance curriculum at other tertiary dance education institutions. It contributes to the exploration of how higher vocational dance education in China can align curriculum content with real-world job competencies to enhance teaching effectiveness. This is a case study of the Dance Performance major using 4C/ID to drive curriculum development and improvement at HVAC, which aspire to tell-it-like-it-is from the participants' point of view, as well as to reflect on the the direction goals of arts education curriculum improvement in terms of the complex realities of implementation and the dance programme as an act of education rather than a pure art. Of course, a case study of one of this university's courses is nowhere near

enough to fully validate its exemplary and normative value, but like as Parlett and Hamilton argued (1972: 54) that Case study is particular, descriptive, inductive, and ultimately heuristic—it seeks to 'illuminate' the reader's understanding of an issue.

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