

Research Article

Conception, Features, and Framework of Curriculum and Instruction Integration

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Experience shows that the separation of curriculum and instruction can seriously block the process of curriculum reform. In the context of the new round of elementary education reform, curriculum and instruction plans should involve developing in an integrated way to implement the goal of students' key competencies. Therefore, there is great value to resist one-size-fits-all thinking and reassess the issue of curriculum and instruction integration from a practical perspective. Following the practical essences of the key competencies, the research involved constructing three dimensions, practice, system, and structure, to reconstruct the connotation of curriculum and instruction integration. Curriculum and instruction integration is defined as the process of reorganizing and sequencing the internal elements of the system to form a new structure and new educational function in practice. There are three characteristics: it takes student learning practice as the goal, the existing curriculum and instruction structure as the basis, and the system hierarchical structure integration as the result. Based on the determined connotation and characteristics, authors constructed a hierarchical framework model for curriculum and instruction integration that was oriented around the key competencies. Research may provide useful references for promoting the high-quality development of curriculum and instruction.

1. Introduction

Key Competencies are the important qualities that individuals can confront with the challenges of social and lives in rapidly developing, highly complex, and uncertain situations in the future [1]. Developing students' key competencies is the trends of international basic education reform. From the perspective of the current practice of curriculum and instruction, there are two problems: a lack of universality and limited effectiveness. First, the key competencies courses have not been widely implemented as scheduled, despite the introduction of new curriculums and textbooks [2]. That is, the national education department has revised the policies and design of curriculum, but that does not mean that schools and teachers have adopted and understood the concept of key competencies education. Many of them eventually return to traditional teaching methods. Due to the lack of supporting instruction methods and evaluation systems, key competencies cannot be well-integrated into daily classroom, resulting in the suspension of the new curriculum. Curriculum reform urgently needs to be tested through frontline teaching

practices. On the other hand, learning task groups and unit teaching have been believed to contribute to the development of students' key competencies [3], and their implementation has been formalized. But Teachers have a casual understanding of how to use learning task groups and unit teaching as teaching methods. For example, teachers rigidly transform course content into learning tasks and problems, and ask students to complete the assigned tasks and receive predetermined answers. This reduces the effectiveness of learning task groups and unit teaching, ignores the real learning needs of students, and undermine the formation of students' key competencies. The dislocation between curriculum reform and teaching practice appears to be a problem of curriculum implementation of schools and teachers, but a deeper reason is the objective separation and juxtaposition between curriculum and instruction in terms of form, content, objectives, means, results, and processes [4], which may seriously hinder curriculum reform and the implementation of key competencies. The theory of situated learning insists that a key element in promoting learning is to enable students to perform tasks and solve problems in an environment that reflects the essence of real-world tasks [5].

The development of students' key competencies has been affected by the overall structure of curriculum and instruction, and the integration of the two is necessary for designing meaningful situation in subject education. Therefore, given the new demand for implementing key competencies and deepening basic education reform, the curriculum and instruction integration problem carries new value and significance. The purpose of this study is to explore the connotation, features and framework of curriculum and instruction integration, to encourage the practical application of national curriculum standards and new textbooks in classroom, and to promote high-quality development of curriculum and instruction.

2. Materials and Methods

This study delved into the existing literature to explore curriculum and instruction integration, which has become the future trend of basic education reform. Because producing students' key competencies has been the main goal of improving current school education in various countries around the world [6]. And the progress of curriculum and instruction cannot be achieved through the reform in a single aspect. Nevertheless, curriculum and instruction are generally regarded as two independent disciplines in the education study domain, their integration has not received extensive attention. As a result, the aim of this study was to explore how to achieve the curriculum and instruction integration oriented to the key competencies. This aligned with one of the primary responsibilities of curriculum and instruction, which was to achieve the goal of developing students' key competencies by teaching subject content [7].

The materials of this research is comprised of scientific works by researchers and their principles related to the study of the curriculum and instruction problems. To develop the argument, the authors mainly analyzed existing literature by quality content analysis. An institutionalized approach was used for the scientific analysis of the curriculum and instruction. Based on the existing literature, this study elucidated the connotation of curriculum and instruction integration by analyzing the scientific literature. Research analyzed the characteristics and established the basic framework curriculum and instruction integration. Drawing on these findings, this study highlighted the importance of curriculum and instruction integration to develop students' key competencies and pointed out the direction of how to integrate them in basic education schools.

3. Results and Discussion

3.1. The Connotation of Curriculum and Instruction Integration. Curriculum and instruction integration is easily confused with the integration of theories. The research attempted to integrate the curriculum and instruction from the perspective of terminology and discipline can be found in the planning curriculum for schools [8], curriculum and pedagogy [9], the principal as curriculum leader: shaping what is taught and tested [10], curriculum planning: for better teaching and learning [11], and curriculum development: theory into practice [12].

In the literature, there was a clear difference between the curriculum and instruction as two concepts in the theoretical research. In general, the terms curriculum and instruction are used in research to discuss education issues at different levels. On the system, region, and school levels, most discussions center on curriculum, but on the classroom and individual levels, most discussions center on instruction [13]. This has resulted in different understandings of the relationship between curriculum and instruction, such as big instructional theory, big curriculum theory, dual independence, and circular connection [14]. Among these ideas, curriculum and instruction integration theorists have proposed that the theory of curriculum and instruction should conform to the practice, and carry out research on complete integration [15], integration on experiential level [16], integration from both perspectives [17], and curriculum top-down integrated instruction [18]. These views enrich the understanding of curriculum and instruction, but they are limited by the need to contrast between curriculum and instruction, which makes it difficult to break away from the stereotype of binary opposition. On the other hand, curriculum and instruction occur at three different levels of practice and various terminology and disciplines are confused, which forces the issue of curriculum and instruction integration to mirror the differentiation in curriculum and instruction theory, thus deviating from the actual educational practices.

In schools, curriculum and instruction form a whole that operates and builds together [19]. This whole is the result of practice. Since the inextricably linked in practice, curriculum and instruction can be treated as an organic integrated whole, that is, part of the overall social practices of human beings. Curriculum and instruction together will become a practical system with a common educational purpose despite being deployed in the various educational contexts. Their integration is the process by which the internal elements of the system are reorganized and sequenced in the actual educational practices, and it is integral for realizing the value of education. Thus, we used the three dimensions of practice, system and structure to understand the connotation of curriculum and instruction integration.

First, the integration of curriculum and instruction is a practical matter. Karl Heinrich Marx believed that practice is a unique objectified activity of human beings through which the physical world can be actively transformed [20]. The practical integration of curriculum and instruction means that curriculum and instruction are no longer regarded as distinct, isolated entities but as a part of the overall behavior of human society, and together under the constraints of certain social practice patterns, objective and orderly self-improvement takes place, thus forming a holistic human social life [21]. Specifically, curriculum and instruction integration means that the different dimensions, levels, and subjects involved in the educational behaviors contribute to the overall orderly interactions in practice and jointly construct the current status of school.

Second, the integration of curriculum and instruction is the integration of systems. A system is an organic whole with specific functions comprising several interacting and

dependent components. Therefore, system integration is the process of constructing, sequencing, and synthesizing several parts or factors into a new unified whole based on the integrity of the system and the control and cohesion of its core [22]. System integration can be a process of aggregating parts into a whole or a process of system development through internal adjustment. As a specific system, whether school curriculum and instruction can become a unified system depends on the integration of its internal elements. In other words, curriculum and instruction integration requires that school's internal system, guided by the goal of educating people, adjust the relevance of synergies among its internal elements to obtain the new educational functions and realize the new educational values.

Finally, curriculum and instruction integration is a type of structural integration. Actual practices are informed by the overall dynamic structure of people's creative activities under the certain historical conditions of the development of human society, and these activities are determined by the behavioral references people have for their practical activities [23]. Thus, current educational practices are affected by the specific structure of the curriculum and instruction system, which relies on stability. The actual activities of the subject produce the structure, which means that the structure is formed through continuous construction and reconstruction [24]. Curriculum and instruction integration means that with the development of educational practice, old practice structures are continually destroyed, and new practice structures are being constantly constructed, thus continually transforming the current practice structure of education.

Key competencies are both the goal and the motivation for curriculum and instruction integration, thus promoting such integration in practice in a sustainable way. Those involved in curriculum and instruction activities take the human development as common guidance, aiming to achieve mutual adjustment, gradually solve the problems and contradictions in the original structure, form a new system structure to realize new educational functions, and further promote the realization of the goal of students' key competencies.

In the current context, cultivating students' key competencies require the joint efforts of various educational elements, such as the curriculum, textbook, teaching methods, and evaluation [25, 26]. Therefore, curriculum and instruction integration is a process of combining key competencies and the particulars of the course. Key competencies are the internal psychological qualities that support humans' practical actions, which are deeply rooted in the individual practical activities [27]. According to the educational goal level of cultivating people through virtue—key competencies—subject key competencies, key competencies are the embodiment of the overall task and the value of education. The particularity of the integration of curriculum and instruction originates from the particularity of the goal, that is, the particularity of the key competencies, but ultimately, it originates from the particularity of practice.

As the fundamental path for the development of key competencies, the particularity of practice informs the underlying logic of curriculum and instruction integration.

Practice is an objectified activity through which people can actively transform the physical world. This means that curriculum and instruction integration must involve the designing learning methods that conform to the laws of learning according to the characteristics of each country, creating a variety of practice situations, and connecting the various learning activities with students' lives, so that students can achieve the overall goal of developing key competencies through education [28]. In other words, curriculum and instruction reform has moved beyond traditional teaching content and forms, and students are now encouraged to help in developing the activities involved in the learning process and gain rich learning experience. Through integrating, curriculum and instruction formed an environment that supports students' independent practice, including experiencing real situations, engaging in learning tasks and testing out various methods of exploration.

3.2. The Features of Curriculum and Instruction Integration. Schwab [29] indicated that, curriculum was a real thing and a concrete case—a system composed of teachers, textbooks, environment, and students, but not an abstract or ideal expression. The goal of curriculum and instruction integration is to promote the development of this practical system through the integration of various practices, improve the quality of learning, and cultivate students' key competencies. Thus, the process of curriculum and instruction integration is connected to both systematic practices and systematic development. From the perspective of systematicness and practicality, we can summarize the three characteristics of curriculum and instruction integration as follows: it takes the practice of learning as the goal, the teaching structure of the curriculum as the basis, and the structural integration of the system level as the result.

3.2.1. Taking the Practice of Learning as the Goal. Students' learning practice is the core of curriculum and instruction integration. This involves the cognition and transformation of the object initiated by the subject, which is a process of individual learning and action, a way to promote the development of students' key competencies. From the situated learning theory point of view, learning is a process of continuous interaction between people and situations [30]. Practical activities are carried out in specific situation, and different settings provided students with the different learning opportunities [31]. Students enhance their practical abilities in the learning space created by the curriculum instruction integration.

In the practice of student learning, students are the subject of learning and practice, curriculum is the object of practice, curriculum and instruction are integrated to constitute a suitable practice environment which promote the students' learning practice activities. But from the perspective of education, students are the common object of educational practical activities such as curriculum design, curriculum development, instructional design, and classroom teaching [32]. As a result, as students gain an understanding of the curriculum, the value of the course is reshaped, and internalization is realized to reconstruct the subject itself. All of the

practice related to curriculum and instruction purposed to stimulate students' subjectivity, created an appropriate learning setting to guide and promote students to better carry out reading and appreciation, expression and communication, sorting and exploration, and other practical activities. Students' performances in assessments of the course content are used as feedback to help them continuously adjust their own practices to achieve the optimal and sustainable development of the practical system.

The essence of curriculum and instruction integration is the integration of multiple levels educational practice activities. Through integration, the content of the curriculum is transformed into specific learning situation, and teachers mentored students' practice. The specific forms include founding a large unit teaching and learning task group. But such integration is not restricted to a specific form and needed to be flexibly adjusted according to specific learning conditions. Therefore, if take certain forms as the purpose of curriculum and instruction, that will deviate from the goal of promoting students' learning practice and fail to improve the quality of students' learning. This would result in opposition between the teaching results and process and between the objectives and forms and in lower effectiveness of the curriculum and instruction.

3.2.2. Taking the Structure of Curriculum and Instruction as the Basis. Structure is the internal basis for how the system functions. The system structure refers to the relatively stable methods of interaction, the organization and the internal manifestation of the space-time relationships among the various components of the system [33]. Curriculum and instruction integration is the process of directional totalization under the guidance of a system's structure, and its structural order can be understood from the two dimensions of synchronicity and diachrony.

From the perspective of synchronicity, under certain historical conditions, people always carry out social practices in a certain way. In fact, all human activities are keeping up with the times and distributed within individuals and their cultures [34]. Thus, the subject, object, tool, scope, scale, mode, system, policy, purpose, and other elements of teaching practice as well as its overall structure and function are the products of social history, reflecting the spirit of the times, and are mainly reflected in the educational achievements [35].

From a diachronic point of view, curriculum and instruction integration is the continuous act of systematically developing students' key competencies. The relationship between curriculum and instruction is a series of positive practical activities, with relatively stable internal structure, more than a static and objective arrangement [36]. As a new demand for the development of students in modern society, key competencies are helpful because it enables a setting where people are working together on a shared task or object to be examined in order to see if it is a system that is conducive to learning. This allows new elements (or the continuous updating of existing elements), such as tools, division of labor, rules, subjects, object, and community, to integrate into the existing

architecture [37]. Around key competencies, these new elements have gradually formed a new system structure, replacing the original system structure and achieving overall reform of the curriculum and instruction system.

3.2.3. Taking the Structural Integration at the System Level as the Result. The final result of curriculum and instruction integration is the formation of a new practice that guides key competencies development through the replacement of the old system structure. This replacement is not a simple gradual change from the old to the new but a transformation of the overall structure into a dynamic new structure through new practices. According to structuralist theory, structure and construction are related concepts [38]. A new structure is constructed on the basis of the existing structure [39]. In the process of construction, old structures inform different stages of development for the new structure.

Though continually discarding old practical structures, curriculum and instruction form a new basis for the development and substructure of actual operations, and realized system structure transformation. A new practical structure in curriculum and instruction integration is combining the previous structures into a new structure and integrating these structures into a new structure with various substructures. With the support of the new system structure, teaching practices transcend the separation and opposition between content and form, objectives and means, and results and processes and generate new teaching practice activities, such as learning task groups, large-unit teaching, and thematic learning, to adapt the development of students' key competencies as needed in a new balanced state [40]. Therefore, the overall structural transformation of curriculum and instruction is a process of hierarchical structure integration based on the existing structures. For example, although the teaching method of elaborating and refining a single text is no longer suitable for the key competencies education, the integration of curriculum and instruction is not simply the abandonment of this practical structure but is an important teaching method that can be used in learning task groups.

3.3. The Framework of Curriculum and Instruction Integration. The relationships among the system elements are determined by the internal structure of a system, which affect the overall practical function of the system [41]. The construction of a new system structure is eventual result of curriculum and instruction integration. While the process of integration is one of constantly adjusting and reshaping the practical relationship in the current curriculum and instruction system structure. Given the goal of developing students' key competencies, what elements are involved in curriculum and instruction integration? What kind of practical relationship should be built between the elements? Where do the obstacles and power of these practical relations come from? All of these are key issues in understanding curriculum and instruction integration. The research constructed a hierarchical structure framework model to explain the internal elements and external environment of curriculum and instruction, as well as the internal and external relationships of the system.

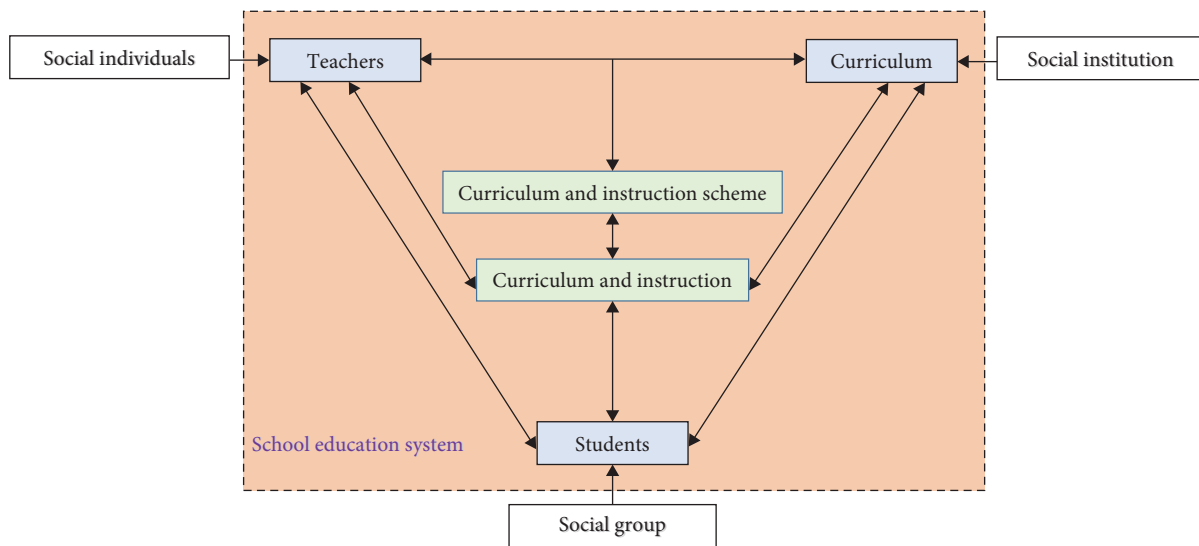


FIGURE 1: The “interaction–development” relationship among curriculum, teachers, and students.

3.3.1. The Internal Factors and Interrelationships Involved in Curriculum and Instruction Integration. Based on the analysis of connotation and features, we figured curriculum and instruction integration adjusts the relations of the elements to transform the system structure and function and realize the goal of developing students’ key competencies. The process integration is to construct the interaction among these elements in the real school context

We assume that the integration starts with the most basic constituent elements. Scholars generally agree curriculum and instruction consist of three basic elements: curriculum, students, and teachers [42–44]. Figure 1 shows our analysis of the relationship among them. In education practice activity, teachers and students are the subjects, and curriculum is the object. As the main body of social practice, teachers and students are essentially social individuals with unique personalities and development histories. In the classroom, it is usually one or several teachers mentoring a group of students. Society is a network of various interconnected positions among many social individuals, in which each individual plays his or her own role in the system [45]. In the network structure of the education system, a unique individual is endowed with the social identity and power of a teacher or a student and thus participates in the educational practices accordingly. While curriculum is essentially a conceptual carrier of the important social ideologies and mainstream values, which reflects the national education goals [46]. Curriculum, as a product of national social control, is a social institution.

Under the current structure of classroom, curriculum and instruction integration focuses on students’ learning activities in practice and constructs an interactive development relationship among the curriculum, teachers and students. Therefore, according to the time of the practical relationship establishing, integration can be divided into the transformation–development relationship between teachers and curriculum, the learning–generation relationship between students and curriculum, and the guidance–reflection relationship between teachers and students.

(1) *The “Transformation–Development” Practical Relationship between Teachers and Curriculum* In terms of practice, teachers’ curriculum-related activities occur first, and there is a relationship between transformation and development. It means teachers transform curriculum into classroom, meanwhile new curriculum integrating into teachers’ professional development. Teachers often employ the art of compromise their curriculum and instruction practice [47]. In other words, before formal teaching begins, teachers select, adjust, and redesign the curriculum according to the specific situation of their school and students. Teachers should generate a teaching program that can operate in a specific school environment, based on their understanding of the curriculum (curriculum materials etc.), and the situation of school and students. In classroom, teachers rely on their experience to guide students’ learning practice activities to achieve the goal of developing key competencies After teaching, teachers reflect on the feedback and learning results of students, then adjust or reconstruct the planning and design of future practices.

To realize the pedagogical role, teachers continue to understand, transform and reconstruct the curriculum. According to the specific situation, teachers consider their use of teaching tools, like curriculum standards and textbooks, which make the specific content and activities of the curriculum—might be lost in theorization and textualization—be fully realized and renewed. Classroom is a teaching experimental field, where teachers fully implement and observe the curriculum [48]. After classroom, the practicability and adaptability of the instruction have been fully tested, so teachers can evaluate and improve it with evidence. The quantitative changes of the next round curriculum and instruction reform are accumulated in teacher’s daily reflecting and adjusting of their teaching practice.

In essence, the transformation of curriculum is also a process of researching and creating, which is important to engage in teachers’ professional development. Curriculum has become one of the driving force for teachers to reflect

on and reform their practices. It provide teachers with a guiding perspective for reforming current teaching methods and encouraging them to actively try new things, control learning content, and continually generate and try new ideas in this process [49]. Due to the interaction, teachers' curriculum develop with the same frequency of their professional development.

(2) *The Practical "Learning-Generating" Relationship between Students and Curriculum* The core concern of the curriculum and instruction system is the practical relationship of learning-generating between students and curriculum. That is, the generation of the curriculum and the development of students' key competencies complement each other. Curriculum is the human social experience in specific fields that has been abstracted and systematized [50]. Students' experience is developed on the base of curriculum, meanwhile, students' choices, participation and feedback shape the new curriculum.

Dewey [51] placed the students and curriculum at the starting and ending points of the development process of experience, advocating learning from doing. Students participate in course and explore problems in real situations, that help them use their knowledge to complete learning tasks, and realize the continuation of their own experience in the interaction between individual and social. Meanwhile, curriculum gains new value through students' participation and application. On the one hand, students' learning achievements reflect the inherent educational value of the curriculum. On the other hand, through integrating with students' experience, the curriculum gains new meaning and connotations against the new social and historical background and enriches the intrinsic value of the disciplines.

The center of modern school curriculum has shifted from teaching to learning [52]. When learners actively participate, many kinds of learning will be promoted. Learners shape this process through decision-making and the ability to coordinate their learning [53]. Students play a dominant role in learning, and subject-related activities form the main components of the curriculum. While curriculum is not only the object of students' learning, providing abundant content, but also internally stipulates the objectives, results and methods of practice activities, guiding students to develop experience. In classroom, students creatively interact with the curriculum in a dialogic way and attempt to retain the information and update their own experience to generate new meanings and experiences.

(3) *The Practical "Instruction-Reflection" Relationship between Teachers and Students* Teachers and students are the real subjects and creators of a given curriculum [54]. The mentorship is an indispensable practical relationship in the system of the curriculum delivery. Mentoring is a continuous process of learning with a major impact on the mentees and mentors [55]. Teachers guide and encourage students to learn course material, and students actively provide feedback to teachers, which promotes teachers' continuous learning and career development.

Teachers' mentoring is closely linked to the process of students' curriculum learning practice. Generally, the teaching

methods educators select will directly affect the learning methods learners employ [56]. In classroom, students' learning practice activities generate in-depth learning under the guidance of teachers. Students' deep understanding of concepts, the construction and use of language in real situations, and the completion of learning tasks need to be achieved through the active guidance of and interaction with teachers. Without the role of teachers as supporter, sponsor, guide, encourager, advisor, and so on, the learning of novice students remains largely superficial. In addition, teaching always embodies the nature of education [57], which affect the formation of students' character.

At the same time, the development of teachers also occurs through the teaching process. As Van Manen [58] said, pedagogy exists in the situation where we talk with students every day, and pedagogy exists in the way we work with children. Classroom is not only a place for knowledge transfer but also a field of communication. Teachers and students engage in positive interactions, transfer and exchange with each other to gain ideas and generate communication. The process naturally involves teachers' educational practice and research, in which teachers can discover the problems they overlook during the teaching process and achieve self-improvement with students' provide feedback.

Overall, curriculum and instruction integration involves the internal elements of the system interacting, developing through that interaction, adjusting to each other through development, and finally, achieving overall development. In teaching practice, guided by the key competencies, teachers, students, and the curriculum build complex interrelationships and integrate into a whole. Such integration improves the quality of students' learning practice activities, promotes the professional development of teachers, and stimulates the reforms of the curriculum.

3.3.2. *The External Environment and Hierarchical Interaction of Curriculum and Instruction Integration.* Taking a socio-cultural perspective, there is no abstract practice beyond social history and that all practices are concrete practices that occur in specific social and historical environments [59]. Therefore, curriculum and instruction integration cannot be separated from specific social and historical conditions and practical situations. External environment not only regulates the internal structure of curriculum and instruction, but also provides a continuous impetus for the integration of these components. The environment of curriculum and instruction system includes school education system and social system. The three systems constitute a three-layer nested structure, and there are extensive connections and interactions within this hierarchy. Figure 2 presents our view of the external environment and internal components of curriculum and instruction, as well as the interaction-development relationship between the components.

First, the supply of the social system is necessary for curriculum and instruction integration. The development of the social determines existence and environment of the school, and stipulates the purpose, content, method, and functional structure of the school education [60]. Social system is responsible for providing advanced education concepts,

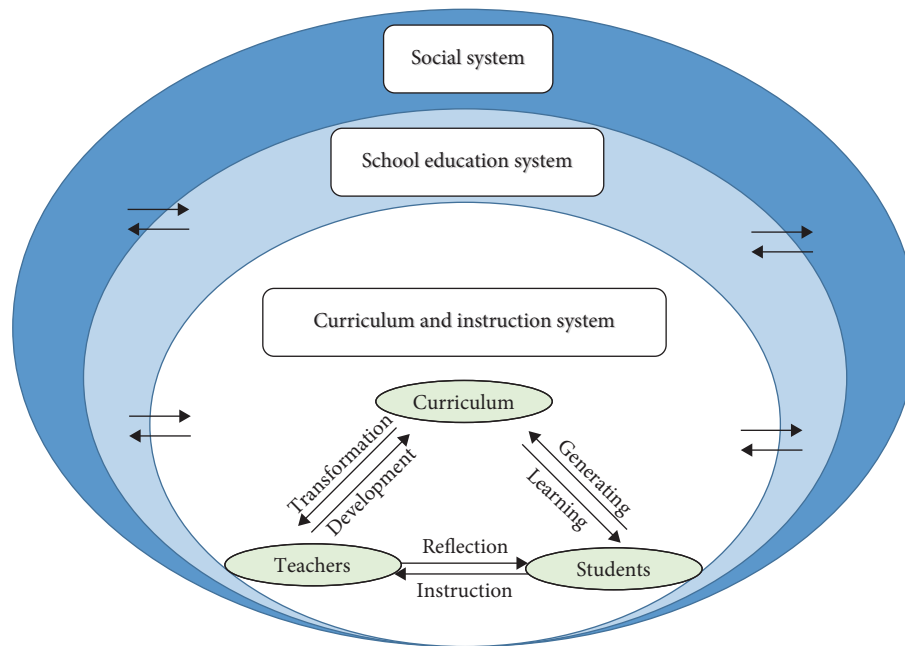


FIGURE 2: The integrated hierarchical model of curriculum and instruction.

sufficient resource support, favorable policy arrangements, effective process promotion and scientific evaluation standards for the development of the school. Curriculum and instruction integration is part of the national basic education reform which is guided by the key competencies. This integration is closely linked with other education reform projects, such as increasing the level of education investment, achieving educational balance among different regions, strengthening the teacher program, and so on, to jointly facilitate the development of the students' key competencies.

Second, the environment of the educational system affects curriculum and instruction integration. School education is an important way to promote social development and reform, and curriculum and instruction is the core component of school [61]. The curriculum and instruction practices must be carried out in a specific school environment. Unlike the extensive impact of social culture on curriculum and instruction, the impact of the school environment is direct, comprehensive and specific. A high-quality school should have appropriate direction, good school culture, systematic curriculum structure, an excellent teaching team, high-quality student development, optimized school conditions, high-quality school management, and strong school leadership [62]. In other words, the specific school environment provides the inherent substantive elements of curriculum and instruction, and strongly influences their integration.

Finally, curriculum and instruction integration responds to the development needs of society and schools. Through extensive interactions among the system levels, new elements such as curricula, teachers, students, and technology continue to join in the curriculum and instruction system and form specific educational practices. Curriculum and instruction integration needs to take the cultivation of key competencies as an opportunity, and based on the current social

and national conditions, to promote the renewal of the current educational practices. In addition, through the orderly, continuous and long-term integration of curriculum and instruction, people seek to continually improve the quality of education, polished up the school environment, respond to the new demand of social development.

4. Conclusion

Since the 21st century, the development of international basic education has undergone profound changes based on the development of students' key competencies. The high-quality development of school curriculum and instruction has become an important way to improve the students' key abilities and essential qualities. This study reexamines the connotation and characteristics of curriculum and instruction integration from the perspective of educational practice and constructs a hierarchical model of curriculum and instruction based on the developing students' key competencies. The introduction of the integrated model of curriculum and instruction will help teachers better understand current teaching reforms and avoid some misunderstandings in learning task groups or large-unit teaching. It will also clarify the basis, objectives, results, obstacles, and motivation on which the curriculum and instruction can rely and, in specific school situations, build appropriate practical relationships among teachers, students and curriculum. However, it is worth noting that curriculum and instruction integration is a long-term process. A complete curriculum and instruction system must be formed according to the specific school situation, and promote the orderly implementation of such integration for specific courses. It's also inseparable from the overall education planning and development of specific regions and schools. In view of the common goal of

promoting the development of students' key competencies, the different curriculums practical activities will achieve overall orderly development under a certain operating mechanism. The construction of the hierarchical model of curriculum and instruction integration lays the foundation for determining this internal integration operating mechanism. In summary, this research aims to provide a useful reference for the implementation of basic education reform, promoting the development of key competencies, and realizing the high-quality development of curriculum and instruction.

Data Availability

The data reported in this paper are available on reasonable request to the corresponding author.

Conflicts of Interest

The authors declare that there is no conflict of interest regarding the publication of this paper.

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