

Education

## Education for All-Round Student Development An Evaluation of the Compulsory Education Curriculum Program and Standards 2022

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**In China's compulsory education, the Compulsory Education Curriculum Program and Standards 2022 represent a shift in emphasis from imparting knowledge to cultivating competence. It integrates the concept of holistic student development into day-to-day instructional activities in order to foster positive values, essential character traits, and fundamental academic competence in students. The purpose of this article is to promote the high-quality development of China's basic education by describing the history of the New Curriculum Standards, interpreting its specific requirements, and recommending effective implementation strategies.**

**Keywords:** Compulsory Education; Curriculum Reform; Course Standards; Key Competencies

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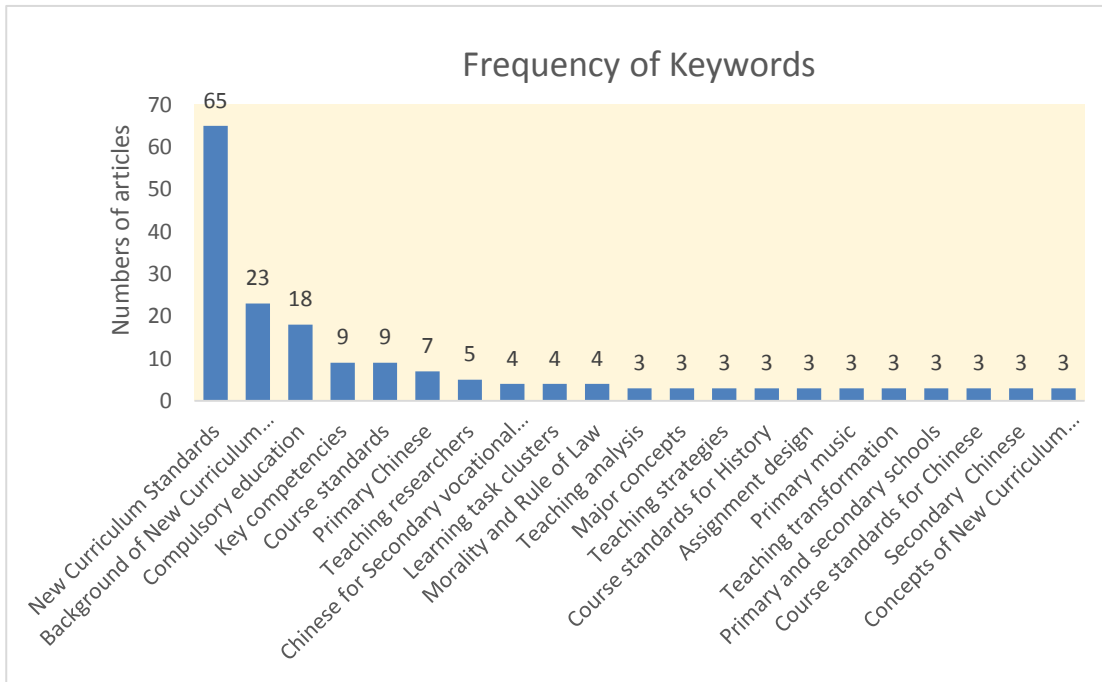
ON April 21, 2022, the Ministry of Education of China released the Compulsory Education Curriculum Program and Standards 2022 (hereinafter referred to as the New Curriculum Standards), redefining the curriculum program and standards of the 16 compulsory education courses (including primary and junior secondary schooling in China). As a revision to the 2011 version, the New Curriculum Standards are based on the notion of “key competencies.” In the meantime, its emphasis on the comprehensive quality improvement of students is consistent with the traditional Chinese education principle of “achieving virtue through learning.” The New Curriculum Standards provide guidelines for selecting course material, designing instructional activities, and assessing academic quality. In addition, pertinent policies and mechanisms are implemented to ensure its implementation. In this study, we discuss the implications of the curriculum reform, the core principles of the New Curriculum Standards, and approaches to its effective im-

plementation in an effort to provide educators with insight into how to adapt to the reform and how to address the challenges posed by the New Curriculum Standards.

### Current Research Status on the New Curriculum Standards

Since its release in April 2022, the document has become a topic of interest and debate within the educational community. We used the search term “New Curricular Standards” to find journal articles, theses, and dissertations on the topic “New Curricular Standards” in the Chinese academic database “CNKI” (China National Knowledge Infrastructure). We found that 253 articles have been written about this topic in the last few months.

Utilizing data visualization analytics, the frequency of keywords used in these articles (**Figure 1**) is computed and high-frequency words are identified. Based on the results of the analysis, it looks like the New Curricular Standards have not yet



**Figure 1. Frequency of Keywords in the New Curricular Standards Research.**

decided where they want to focus their research.

The New Curricular Standards emphasize terms such as “key competencies,” “learning task clusters,” and “major concepts,” which have sparked intense debate. Also, most research has been done on subjects like Chinese and the Rule of Law and Morality, but there haven’t been many studies on things like math, physics, chemistry, etc.

This study will examine the new educational objectives, modifications to the instructional strategies, and altered evaluation systems brought about by the new curricular standards based on a survey of the body of existing literature.

### The Background of the New Curriculum Standards

#### The Calls for Reform of Knowledge-centered Traditional Educational Modes

In China’s examination-oriented education, the curriculum design has been defined by an emphasis on cognitive ability over non-cognitive abilities and a focus on disciplinary knowledge over interdisciplinary competency, in contrast to the global trend of building students’ key competences. Teaching is oriented on boosting students’ test scores, but instructors and parents pay little attention to the development of students’ character and diverse skills, and the cultivation of essential qualities that are not directly related to student academic performance is frequently disregarded. This form of education is not only contrary to the fundamental purpose of education, but it also causes students, teachers, and parents to experience extreme strain and anxiety. Because of this, academics have a lot of problems with the current “learn by rote” method, and both the public and academics are pushing for changes to education.

In his study, Zhong analyzed the downsides of examination-oriented education, including an excessive focus on imparting fragmented knowledge; overlooking the linkages between life and scientific knowledge; and altering students’ personalities at a crucial period of development. He stated that studying without practical experience deprives students of the ability to acquire knowledge and skills through real-world situations and is therefore practice without foundation (1). Tan and Yang believed that the openness and diversity of pedagogical methods could promote the sound development of education, whereas the prevalent ineffective teaching model, in which teachers dominate the classroom and students are passive recipients of course content, can only result in the decline of education. They suggested that the traditional approach to teacher-centered instruction should give way to the student-centered learning model, and that more teaching activities that can stimulate students’ learning interests and maximize their participation should be incorporated into classroom instruction and training in order to increase students’ competence (2). Scholars agree that an examination-focused education that overemphasizes knowledge mastery is a form of alienation from the essence of education and that the acquisition of pure knowledge does not necessarily contribute to the development of personality. Educational reform became preoccupied with the reworking of the old curriculum (3).

#### Requirements of the New Era

Modern society’s rapid progress needs the ongoing modernization of all industries. Individuals must continuously develop their knowledge and abilities to stay up with the industrial transition. Therefore, modern education is no longer geared toward

exams at set ages but rather focuses on lifelong personal growth.

According to Liu and Wei, in the age of information explosion, the cycle of knowledge updating has become shorter than in the past, and school-learned knowledge can no longer meet the needs of future societal growth. Enhancing students' ability to learn independently has become the emphasis of educational reform in this environment. Students will only be able to handle future problems if they have the key skills and traits of lifelong learners (4).

Similarly, Li highlighted that fostering student autonomy in learning is the new trend in educational progress. In the 1950s, 75% of the knowledge acquired in college could be utilized until retirement. This figure has decreased to 2% now. If people stop getting new information and skills, they will be wiped out by more advanced industries (5).

Therefore, classroom instruction controlled by the teacher is no longer a viable instructional model in the modern era. A growing number of individuals recognize that the primary purpose of education is to educate students how to learn. Teachers can get students interested and hungry for information through classroom activities, and students should be encouraged to learn on their own and build their own knowledge frameworks.

### **The Need to Integrate Global Cutting-edge Educational Ideas**

The search for new teaching paradigms is a crucial element of educational reform. Among these, the Japanese professor Manabu Sato's "deep learning" is a notable example. Deep learning places greater emphasis on the process of discovering and solving difficulties in learning than on the transmission of textbooks' specific knowledge content. In the conceptual framework of deep learning, classroom instruction consists of "interaction and dialogue with the objects of study," and students are encouraged to gain insights into the subject by asking questions such as "why do we need to explore this topic?", "what can we learn through inquiry?", "what method should be used to conduct the inquiry?", etc., to broaden and deepen their understanding (6).

Song and coworkers revealed that student-centered "happy education" has permeated all facets of New Zealand's educational system, including the curriculum, textbooks, and teacher's manuals for all school subjects. Happy education stresses how important it is to plan activities in the classroom and encourages the creation of positive learning environments so that students can find their own interests and values (7).

The teaching method of "divergent thinking training" established by Professor W. J. Gordon and his colleagues at the Massachusetts Institute of Technology can greatly increase student participation in problem solving. In this way of teaching, creativity is broken down into problem-solving skills, creative expression, interpersonal communication, and understanding of social relationships. Students are encouraged to make connections between things that are similar, use substitution to connect what they know with what they don't know, and come up with new ideas from well-known concepts (8).

It could be argued that popular educational models in other countries do not view learning as simply accepting abstract knowledge, but rather encourage students to become

knowledge-structure builders and task-driven explorers. Since these explicit skills are hard to measure with test scores, they have been undervalued in Chinese education, even though they are important for each person's growth.

### **Characteristics of the New Curriculum Standards**

#### **A New Curricular Goal**

For the first time in the history of Chinese education, the New Curriculum Standards establish the development of students' key competencies as the curriculum's major purpose. In this text, "key competencies" refer to the fundamental skills, qualities, and values that students can acquire through compulsory education. Deep learning in real-world conditions, such as practice, inquiry, experience, teamwork, and communication, can nurture it most successfully. Consequently, a fundamental reform of existing educational conceptions and practices is essential (9).

Yu and Ma interpreted key competencies differently, claiming that they are a combination of knowledge, abilities, and attitudes that prepare students for their future roles in society. The emphasis on student key competence development in the New Curriculum Standards is a challenge to the traditional learning model, which is based on the acquisition and collection of static knowledge, and it will make it much harder for teachers to teach knowledge in a mechanical way (10).

According to Zhang, director of the Ministry of Education's Curriculum and Textbook Research Institute, the standards for each course are established to make it easier to organize classroom activities around the curricular goal of helping students build important competencies. Teachers are urged to use theme- and project-based activities to teach the course to foster students' abilities to learn through experience and apply knowledge in the real world (11).

#### **Emphasis on Interdisciplinary Learning and Multi-skill Development**

The New Curriculum Standards place a high value on subject connections and interconnections between knowledge and real-world experience in order to accomplish the new training aim. The ability of students to analyze problems and find solutions using information and techniques from pertinent fields can be improved through interdisciplinary learning. Students will transcend the borders between fields as they complete interdisciplinary learning challenges, overcome thinking stagnation, and, as a result, build inventive and creative thinking skills.

Zhang argued that people in the information age face more complex situations than ever before, and that students must cultivate the fundamental ability to deal with sophisticated knowledge systems ahead of time (12). Yu and Ma believed that the knowledge integration ability advocated by the New Curriculum Standards is inextricably linked to interdisciplinary learning; teachers should integrate knowledge from various disciplines as well as life experience into the teaching process to develop students' ability to apply knowledge from multiple disciplines (10). Fang proposed using interdisciplinary "big ideas" in multidisciplinary integration. "Big ideas" are key concepts, principles, and theories that are shared by all or many disciplines. A project-based, task-driven learning activity is typically led by

an interdisciplinary big idea. Teachers can pose a few key questions based on the big ideas and design a series of inquiry activities to guide students in fully utilizing the course's basic knowledge and skills so that their subject knowledge can be extended, integrated, and reorganized in practical activities (13).

The New Curriculum Standards also emphasize the value of the "five educations," which include moral, academic, physical, artistic, and vocational education (14). Teachers frequently place an excessive focus on intellectual education and disregard the other "four educations" because the senior secondary school entrance examination and the college entrance examination influence students' future educational chances. Student multi-skill development benefits from the New Curriculum Standards' respect for the coexistence of "five educations". Previously ignored in school education, social practice and labor education are now mandated as essential components of the curriculum. For instance, according to the course requirements for chemistry, students must assist with household duties and develop a thorough understanding of chemical principles by learning how to use dinnerware, prepare meals using gas, and bake bread or buns (15).

### **New Evaluation Systems**

Changes in the evaluation system are necessary to reflect the updated curriculum goals and modified instructional strategies. The New Curriculum Standards put a lot of weight on the idea that evaluating education should take into account how students' academic achievements and core skills change as they move through school (16).

Ji stated that since the objective of the New Curriculum Standards is the development of students' key competencies, test questions should be more focused on measuring and evaluating students' critical thinking and inquiring skills. In the new evaluation system, result descriptions have been replaced with analyses that can illustrate the learning situations of students at various educational stages. It works better than the previous evaluation method, which focused on checking knowledge points, because it can show how learning gets deeper from low levels to high levels (9).

As per Guo, the New Curriculum Standards require that the evaluation system include assessments of classroom performance, assignments, and periodic tests. Classroom performance assessment should include basic knowledge, cognitive processes, thinking ability, and emotional attitudes; scientific appraisal tools such as evaluative scales are required to conduct classroom performance assessment. Specific requirements for assignment design and marking have been established: assignments should be rich in forms with appropriate levels of difficulty and workload in accordance with the Double Reduction policy; assignments should be marked on time and responded to with improvement recommendations and encouragement. Periodic tests are used to evaluate the overall learning environment of the class and each student's learning at each stage. They can be given in a variety of ways, such as presentations, discussions after reading, recitations, and the traditional written form (17).

### **How to Implement the New Curriculum Standards Effectively**

### **To Instruct Students on How to Learn**

New knowledge emerges on a daily basis in this age of information explosion. Learning how to learn is now more important than ever. The New Curriculum Standards make it very clear that the main goal of compulsory education is to help students learn how to learn so that they have a solid foundation for future learning and growth.

The New Curriculum Standards emphasize that, through the use of teaching methodologies, educators should encourage students' understanding of knowledge acquisition pathways and assist them in the development of their own cognitive perspectives and ways of thinking. For instance, task-driven learning is a beneficial technique for teaching Chinese that may successfully translate the learning of textbook content into students' reading experience and increase students' capacity to read deeply and think critically. Because of this, students learn how to use language to improve their ability to think critically (18).

Zhang believed that professors should provide sufficient free time and allow students to take the initiative to learn. Self-directed learning and trial and error provide students with the option to investigate learning strategies. Furthermore, offering students appropriate time for independent study is not only a question of teaching strategies but also an indication of teachers' faith in students' ability to self-regulate. Consequently, students can be encouraged to learn more through their own efforts, and teaching effectiveness can be significantly enhanced (19).

In his research on student learning methods, Jiao used his experiences teaching archaic Chinese lessons as an example. Before the lesson, students were asked to research the meanings of a few key words and then make complete sentences in archaic Chinese in class. They had to consult archaic Chinese dictionaries and reference books on their own to accomplish this. Jiao thought that the most important thing students got out of this class was the ability to search for information for their own independent studies (20).

### **To Properly Organize Course Materials**

The New Curriculum Standards strongly advocate doing away with the conventional method of fragmented instruction, which is just a process of running through a list of knowledge points. Instead, teachers are urged to use "major concepts" and "projects" to structure the course material. A key building block for students' deep learning is the introduction of more difficult learning paradigms, including problem-based, task-driven, and project-based learning.

The fundamental notions that underlie any field are referred to as "major concepts". They can be used by teachers to create a comprehensive picture of information in each subject and combine various knowledge, abilities, and approaches to provide students with a thorough and transferrable understanding of the subject matter (21). So, the focus of student learning shifts from learning by rote the contents of well-known books to mastering the key techniques and frameworks of disciplines.

For students to develop a comprehensive knowledge structure in mathematics, Chen recommended that primary mathematics teachers use major concepts to assist students in tackling incomplete knowledge points from the perspective of the entire module. To help students comprehend the stages in

solving equations, teachers might use the example of teaching equations to show them how to apply integer operations to solve equations. They can also use a “balance” diagram, which is a mix of numbers and symbols (22).

In addition, the New Curriculum Standards highlight the “learning task cluster” as an effective technique for organizing course content. According to the text, a learning task cluster consists of a number of learning tasks revolving around a central topic or theme; a succession of learning task clusters structures the course instruction. So, the knowledge points of a subject are grouped together and put together in a way that makes more sense. This helps students develop their most important skills, qualities, and values, which is important for the development of their key competencies.

The course standards for the Chinese language, for instance, restructure the course’s content into three levels of learning task clusters: (i) basic learning task clusters; (ii) competence development-oriented learning task clusters; and (iii) extensive learning task clusters. The clusters of first-level learning tasks involve the acquisition and review of language features. The second level is divided into three groups: practical reading and communication; literary reading and creative expression; and critical reading and expression. The third grade consists of two clusters: extracurricular reading and transdisciplinary education. All clusters of learning tasks are labeled with distinct learning content and teaching instructions. Each is conducted in a difficult, open environment that requires text interpretation, information acquisition, and basic skills (listening, speaking, reading, and writing) instruction. Together, they build a full course framework for learning Chinese at the compulsory education level.

For the Chinese course, Liu and Huang discovered that the learning task cluster is a useful method for implementing structured classroom instruction. It incorporates scenarios, content from textbooks, and other pertinent resources under the direction of a learning theme. To ensure that learning task clusters are relevant to the needs for each educational level specified by the course standards, teachers should pay more attention to the implementation procedures of these task clusters (23). Cai stressed that one of the main goals of learning task clusters is to foster students’ independence in information selection and search. Students get the ability to filter relevant information from a vast array of sources and understand it using their own language. In this method, learning task completion is combined with gaining knowledge and getting better at writing (24).

### **To Promote Interdisciplinary Instruction**

The overemphasis on teaching a particular subject results in a number of issues, including students’ weak problem-solving and knowledge-application skills. Students can gain a thorough and in-depth grasp of nature, science, and human society by integrating multidisciplinary knowledge and learning in real-world circumstances. The New Curriculum Standards stress interdisciplinary learning as a means of overcoming the drawbacks of single subject-based teaching by allowing the linking of information across numerous disciplines and incorporating the various modes of conceptualization used by other courses. This encourages students to create novel ideas and approaches as well

as enhances their capacity for invention and decision-making. It also helps students’ knowledge and horizons grow.

The results of Yu and Chen’s research indicate that transdisciplinary expertise is frequently required to answer meaningful queries. Multidimensional knowledge is required for all learning activities, whether they are intended to create a condition, explain a phenomenon, or improve a design. Real problems are frequently oversimplified in traditional education and used as exercises and exam questions for a single subject. But since science is such a broad idea, it is possible to gain a thorough knowledge of it from the angles of other disciplines. For instance, “lifting an object” in real life can be a topic in physics, but a thorough explanation of its mechanism requires more than just physics expertise; the analysis also needs to consider how the biological processes of the human body work (25). Students have a wider range of options for tackling challenges thanks to the combination of their multidisciplinary knowledge. According to Yang, interdisciplinary study will improve student cognitive ability and learning motivation and allow students to become more proactive in their understanding of life through their studies by revealing the connections between disciplines through real-world problems, solutions, and experiences (26).

Yin, Zhang, and Liu contended that Chinese and history are complementary and that interdisciplinary task clusters should be established between them. The focus of historical storytelling is on the truth, while fantasy is permitted in literature. Despite their differences, they are both centered on the art of language; consequently, combining the two topics might enhance student learning (27). According to Lu’s study, interdisciplinary instruction is highly advantageous for teaching science to elementary kids. In the “Building a House” class, for instance, he asked his animal-loving kids to construct a home for a homeless dog. Children were very devoted to the assignment, applying their expertise in mathematics, engineering, and information technology, among other topics, to solve difficulties and produce inventive, multi-style ideas (28).

### **To Encourage Formative Assessment in Student Performance Evaluation**

The objective of the New Curriculum Standards’ redesigned evaluation method is to improve students’ key competencies and inter-disciplinary learning skills. In addition to exam scores, students will be judged on how well they did during the whole process of situation-based learning, which includes questioning, arguing, reflecting, and judging.

To ensure that data on student learning can be gathered in a comprehensive manner, Yang advised that teachers design an evaluation scheme that focuses on formative assessment with summative assessment being secondary. Additionally, learning task sheets should be prepared to record students’ experiences, gains, and difficulties in each learning activity to evaluate the quality, motivation, and strategies of their learning. Quantitative recording tables are to be filled out to record students’ real-time performance in class. The New Curriculum Standards are also in line with the introduction of evaluation of situational tasks, which encourages students to complete meaningful tasks in real-world contexts and integrates assessment of students’ use of interdisciplinary methods and skills into the evaluation system

to improve students' ability to solve complex and controversial problems in the real world (27).

Fang asserted that the evaluation system supported by the New Curriculum Standards differs from the traditional academic performance evaluation that focuses on written examinations; it tries to assess students' abilities to use knowledge to solve issues in a real or simulated environment. The goal of assessment is to help students understand implications about what and how to study, so they can be directed to increase the effectiveness of autonomous learning, rather than to render a final judgment. Teachers must develop evaluation standards for each project based on its unique qualities. For instance, the following criteria could be established for the project "the effect of tea extract on memory in learning": select mathematical tools to process the data and use well-designed charts to describe them; look at the variety of mouse behavioral indicators and compute pertinent numerical values; and present an experimental report with distinct points of view, ample supporting data, and trustworthy conclusions. Such evaluation criteria can help students figure out how well they can do practical research and give them tips on how to learn across disciplines (13).

## Conclusion

As a result of the world's rapid development, the objective and substance of education must be constantly revised and changed to fit contemporary needs. Schools presented their own interpretation of the "key competencies" in response to the New Curriculum Standards with a great deal of passion to highlight the uniqueness of their traits. For educational reform to go smoothly and effectively, it is now the role of academics and educators to carefully evaluate the needs of top-level design and conduct in-depth research to arrive at a logical and usable knowledge of the new curricular purpose. Additionally, it is a significant challenge for front-line teachers and principals to change their usual working practices and shift the educational emphasis to establishing student core competence in the context of examination-oriented instruction. When there is a significant clash between conventional behavior and the public's high expectations for educational transformation, the reform's results are still questionable. But it should be stressed that the main goal of education is to help students grow and learn for the rest of their lives. ■

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