

# On the Cultivation of Top-notch Innovative Talents from the Perspective of Educational Concepts in *Émile*

Xiaoran Huo

*Central University of Finance and Economics, Beijing, China*

**Abstract:** The concept of natural education proposed by Rousseau in *Émile* provides a classic theoretical perspective for solving the practical dilemmas in the cultivation of top-notch innovative talents. Focusing on this concept and combining the core demands of the education sector against the backdrop of innovation-driven development, this paper systematically analyzes five key insights from Rousseau's natural education thought for the cultivation of top-notch innovative talents: Prioritize "comprehension" to break the exam-oriented tendency of "memory supremacy," thereby solidifying the knowledge foundation required for innovation; Dialectically integrate "adapting to the development of nature" and "knowing the limit to gain stability," balancing the openness and directionality of educational goals; Examine the phenomenon of repeated postgraduate exam attempts (second or third tries) from the perspective of "labor value theory," guiding students to make choices based on real needs and value creation; Reaffirm the importance of "synergetic physical and mental exercise" to correct the unbalanced educational model that overemphasizes intellectual development while neglecting physical fitness; Construct a "trinity" collaborative mechanism of natural education, family education, and school education to bridge the gap between them. The educational wisdom in *Émile*—which respects nature, focuses on essence, and pursues synergy—holds significant practical significance for cultivating top-notch innovative talents with original capabilities, critical thinking, and sustainable development potential. It can also provide theoretical references and practical paths for contemporary education reform.

**Keywords:** *Émile*; Educational Concepts; Natural Education; Cultivation of Top-notch Innovative Talents

## 1. Introduction

Rousseau's concept of natural education in *Émile* offers a unique perspective for us to examine the cultivation of contemporary top-notch innovative talents. In the current era that emphasizes innovation-driven development, how to cultivate top-notch innovative talents with original capabilities, critical thinking, and sustainable development potential has become a crucial issue in the field of education. Although the educational wisdom embodied in *Émile* originated in the 18th century, it still provides profound insights for modern education.

## 2. Comprehension First: The Cognitive Foundation for Cultivating Top-notch Innovative Talents

Rousseau put forward the view that "Only what is truly understood can be remembered" in his work *Émile*. This is not merely a summary of simple educational techniques, but a core proposition that directly points to the essence of education. The underlying logic of this statement lies in the fact that the value of knowledge does not come from mechanical memorization, but from internalization in line with cognitive laws. Only when knowledge aligns with a child's stage of cognitive development and life experiences, forming a "cognitive resonance", can it be transformed from passively received information into actively usable ability[1]. This concept is like a mirror, reflecting the limitations of the "memory supremacy" prevalent in current education. In the cultivation of top-notch innovative talents, comprehension is the cornerstone of innovation. If students merely memorize knowledge mechanically without truly understanding its connotation and logic, the knowledge they acquire will be nothing but scattered fragments, which can hardly be transformed into a driving force for innovation.

In modern education, the importance of "prioritizing understanding" has become even more prominent. Innovation is not created out of

thin air; instead, it is a breakthrough in thinking built on the in-depth deconstruction and reconstruction of knowledge systems. The exam-oriented orientation leads many students to spend a great deal of time on rote memorization to cope with exams. They may memorize formulas, theorems, and knowledge points, but fail to understand the underlying principles, let alone apply them flexibly or achieve innovative breakthroughs. Top-notch innovative talents require in-depth comprehension of knowledge—being able to perceive the internal connections between different knowledge points, thereby forming their own knowledge system and way of thinking[2]. For example, in the field of scientific research, true innovation often stems from a profound understanding and questioning of existing theories. If one only memorizes the conclusions of predecessors without understanding the derivation process and scope of application, it will be difficult to identify flaws or room for improvement. The core competitiveness of top-notch innovative talents lies precisely in their in-depth understanding and flexible application of knowledge. True innovators can not only grasp the "what" of knowledge, but also explore the "why" and "how to use it" behind it—they can look beyond the superficial knowledge points to see the logical framework, thinking methods, and application boundaries underlying the knowledge. Furthermore, they can identify contradictions, find gaps in the existing knowledge system, and put forward new questions and solutions.

Therefore, in the educational process, we should abandon cramming-style teaching and encourage students to explore proactively, think critically, and deepen their comprehension of knowledge through questioning, discussion, and practice. Only in this way can we cultivate top-notch talents with innovative potential.

### **3. The Debate on Educational Goals: The Integration of Natural Development and "Knowing the Limit"**

The theory of natural education proposed by Rousseau in *Émile* is by no means a simple denial of educational goals, but a profound criticism of rigid educational models[3]. He once vividly compared: Education is growth; growth itself is the end, and there is no other end beyond growth. This view stems from his

reflection on the feudal education in Europe at that time. Similarly, the phrase "When one knows where to stop, one can be firm in purpose" from the *Tao Te Ching* also requires breaking free from literal misunderstandings. The word "stop" here does not refer to a negative attitude of standing still, but rather a reverence for and grasp of the laws of things, embodying the wisdom of defining clear boundaries and clear directions. Although these two concepts seem opposite, they are highly consistent in the core of "complying with laws", and together provide important insights for the cultivation of top-notch innovative talents.

Rousseau opposed artificially set, fixed goals that restrict children's nature; he believed that education should resemble natural growth, allowing children to demonstrate their potential through free exploration[4]. The "limit" in "knowing the limit to gain stability" does not mean ceasing development, but rather understanding the boundaries and laws of things, and identifying one's direction within a clear scope. Both ideas emphasize the importance of conforming to natural laws and internal logic. In current education, there are two major issues: one is the misunderstanding of "standardized cultivation" of students — using fixed curricula and unified evaluations to shape children with different talents into identical "templates", which stifles the individuality and vitality required for innovation; the other is the deviation of "unrestrained development" — only emphasizing "free exploration" while neglecting the guidance on disciplinary rules and the cultivation of self-boundary awareness, leaving students trapped in the dilemma of "directional confusion" with enthusiasm but no systematic progress[5, 6].

In the cultivation of top-notch innovative talents, we should neither set uniform and rigid training goals for students (shaping them into "talents" that fit a fixed model) nor allow them to develop blindly without a clear sense of direction. Instead, on the basis of respecting students' nature and interests, we should guide them to recognize their strengths and limitations, and find a development direction that suits them. For instance, if some students show strong interest and talent in a certain academic field, we should provide them with a broad space for exploration and development, rather than restricting them with fixed curricula and evaluation standards. At the same time, we should also guide them to

understand the development laws and cutting-edge trends of that field, clarify their research direction, and achieve "stability" on the basis of "knowing the limit," thereby advancing further on the path of innovation.

#### **4. Labor Value and Postgraduate Exam Choices: A Dialectical Reflection on Resource Waste**

Rousseau proposed that "man should repay his own debts through his own labor, and should not use his father's wealth to pay off debts for his children." The concept of "labor" in this view goes far beyond physical work; it encompasses all activities that create value through one's own efforts, such as academic research and skill improvement. Its essence is to advocate that people, through active dedication, achieve self-growth while contributing to society, emphasizing the independence and autonomy of individual value. This perspective perfectly reflects the common phenomenon of students taking the postgraduate entrance examination for the second or third time nowadays. Many candidates rely on their parents' support, take a two or three-year gap after graduation to focus on exam preparation, and do not need to worry about their livelihoods. On the surface, during this period, candidates do not enter the workplace to create direct economic value, which seems to result in the idleness and waste of human resources—after all, their peers have already accumulated experience in their positions and promoted social production. However, from a dialectical perspective, if candidates have clear goals and continuously improve their professional literacy and exercise their learning abilities during the preparation process, this "period of accumulation" is actually an investment in their own human capital. When they successfully pass the exam, their more profound knowledge reserves may enable them to create greater value in academia or related fields, which is not necessarily a waste in the long run.

Nevertheless, if candidates follow the trend blindly, lack planning, and only rely on their parents' support to delay time, they will violate the core of Rousseau's view on labor and truly become a drain on resources.

If students take the postgraduate exam out of a desire for knowledge, a pursuit of academic advancement, and continuously improve their professional literacy and comprehensive

abilities during preparation, such second or third attempts are not a waste of resources. Their efforts constitute meaningful labor—a necessary cost to achieve their life goals. Even if they fail to be admitted eventually, the learning and accumulation during preparation will become valuable assets for their future development. However, if students take the postgraduate exam blindly (without clear goals or plans), merely to avoid employment pressure or pursue a diploma, such repeated attempts may indeed waste human resources. They spend a great deal of time and energy without truly improving their abilities or creating value for society, and may even miss other development opportunities.

In the cultivation of top-notch innovative talents, we should advocate the spirit of labor emphasized by Rousseau and guide students to establish correct values and outlooks on life. Whether choosing to take the postgraduate exam or enter the workforce, students should make decisions based on their own interests and abilities, and make tangible efforts on the chosen path. Society should also provide diversified development channels for students, abandon the concept of "diploma-only," and enable students with different choices to realize their self-worth through their own labor. For example, some students choose to enter the workforce directly after undergraduate graduation, accumulate experience and enhance practical abilities at work, and can still become top-notch innovative talents. For students with academic potential and pursuit, taking the postgraduate exam is a reasonable path—but blindness must be avoided to ensure that every effort has a clear direction and meaning.

#### **5. Synergy of Body and Mind: The Cornerstone for Cultivating Top-notch Innovative Talents**

Rousseau put forward in *Émile* that "to make physical exercise and mental exercise complement each other is the first key to education". This concept broke the unbalanced pattern of "valuing the mind while neglecting the body" in traditional education and profoundly revealed the essential law of the coordinated development of the body and the mind[7]. Physical exercise not only strengthens the body, but also stimulates brain vitality through movement, and cultivates perseverance and collaborative skills. Mental exercise, on the other hand, needs to be supported by a healthy

body to carry out logical thinking and innovative exploration more efficiently. This concept holds strong practical guiding significance in the cultivation of top-notch innovative talents[8]. Currently, some educational models overemphasize knowledge inculcation while neglecting physical exercise, leading to problems such as declining physical fitness and weak stress resistance among some students, which restricts the release of their innovative potential.

Top-notch innovative talents need to possess keen thinking, rich imagination, and tenacious perseverance—all of which rely on a healthy body as support. Physical exercise not only enhances physical fitness but also promotes brain development and mental agility. Studies have shown that appropriate physical exercise can improve attention, memory, and creativity, helping people generate new inspirations when thinking about problems. However, in current educational practice, we often overemphasize students' intellectual development while neglecting physical exercise. Many students sacrifice time for physical activity to cope with heavy academic tasks, leading to declining physical fitness and even affecting learning efficiency and thinking abilities. This unbalanced educational model is not conducive to the growth of top-notch innovative talents.

In the process of cultivating top-notch innovative talents, we should adhere to the principle of "complementarity between physical and mental development", deeply integrate physical education courses with disciplinary education. This enables students to temper their character through physical training and rely on a healthy physique to break through cognitive boundaries while expanding their thinking. Only in this way can we cultivate top-tier talents who possess a strong physique, sharp thinking, and innovative capabilities, thereby injecting sustained impetus into the country's scientific and technological development and social progress.

Through outdoor practice or team sports—to enable students to improve their thinking and teamwork abilities while exercising. For instance, some research teams organize outdoor development activities for members, which not only relieves research pressure but also promotes communication and collaboration among members, inspiring innovative thinking. For individuals, adhering to physical exercise

helps maintain abundant energy and a positive mindset, enabling them to better cope with challenges in research and work.

## **6. The Trinity: Synergy of Natural Education, Family Education, and School Education**

Rousseau emphasized that natural education is the foundation of education, and family education and school education should conform to natural laws. These three types of education should cooperate with each other to jointly promote children's growth. In the cultivation of top-notch innovative talents, achieving the coordinated development of natural education, family education, and school education is crucial.

Natural education emphasizes respecting children's nature and development laws, allowing children to perceive the world and understand themselves through contact with nature. Family education is the first classroom for children's growth; parents' words and deeds have a profound impact on the development of children's values, personalities, and habits. School education undertakes the important task of systematically imparting knowledge and cultivating abilities. However, in reality, there is often a disconnect between these three: school education may overemphasize knowledge transmission and exam performance while neglecting students' nature and interests; family education may suffer from overprotection or excessive expectations, violating the principles of natural education; and natural education is even seriously overlooked in the current education system[5].

To cultivate top-notch innovative talents, it is necessary to coordinate the relationships between the three. Natural education provides the principles to be followed by family and school education; family and school education should, on the basis of natural education, create a favorable growth environment for students. Families should provide children with space for free exploration, encourage them to engage with nature and experience life, and cultivate their curiosity and spirit of exploration. Parents should respect their children's choices, avoid excessive interference in their growth, and focus on guidance and support. Schools should reform their teaching models, reduce utilitarian courses and evaluations, increase practical teaching and natural experience content, and enable students to maintain their love for the world and curiosity

for exploration while learning knowledge.

The educational concepts in *Émile* provide valuable wisdom for us to reflect on the cultivation of top-notch innovative talents. In contemporary education, we should absorb the essence of these concepts: focus on cultivating students' comprehension of knowledge, balance the relationship between educational goals and natural development, guide students to establish correct views on labor and values, realize the coordinated development of body and mind, and promote the organic integration of natural education, family education, and school education. By doing so, we can cultivate more top-notch talents with innovative spirit and practical abilities, contributing to social development and progress[9,10].

## 7. Conclusion

The natural education system constructed by Rousseau in *Émile* has undergone three centuries of precipitation, yet its core wisdom still highly aligns with the core demands of cultivating top-tier innovative talents in the contemporary era. Starting with the principle of "respecting nature", it breaks the shackles of exam-oriented education, such as "memory supremacy", "rigid goals" and "physical and mental imbalance". Guided by "value creation", it provides a rational criterion for examining postgraduate examination decisions and balancing educational directions. Furthermore, taking "collaborative symbiosis" as the path, it points out the practical direction of the trinity of natural, family and school education.

Against the backdrop of an innovation-driven development era, the cultivation of top-tier innovative talents not only requires teaching reforms at the technical level, but also demands the reshaping of concepts that return to the essence of education. The cognitive logic of "understanding first", the dialectical balance between "nature and direction", the value core of "labor creating value", the growth law of "physical and mental coordination" and the collaborative mechanism of "trinity" advocated in *Émile* provide a classic reference for solving the practical problems in current education, such as "valuing scores over literacy", "valuing selection over growth" and "valuing individuals over collaboration".

To sum up, the educational concepts in *Émile* offer precious wisdom for us to think about the cultivation of top-tier innovative talents. In

contemporary education, we should absorb the essence of these concepts, focus on cultivating students' understanding of knowledge, coordinate the relationship between educational goals and natural development, guide students to establish a correct outlook on labor and values, realize the coordinated development of body and mind, promote the organic integration of natural education, family education and school education, cultivate more top-tier talents with innovative spirit and practical ability, and contribute to the development and progress of society.

## References

- [1] Ke, W. T., & Li, Z. H. (2022). Re-discussing who Emile is. *Modern University Education*, 38(01).
- [2] Cai, L., Nan, Y., Ning, D. D., et al. (2024). Exploration of Paths for Cultivating Top-notch Innovative Talents in Future Science and Technology Fields under the Background of Integrated Development of Education, Science & Technology, and Talents. *Journal of Higher Education*, 10(35), 1-4.
- [3] Kong, X. H. (2019). The rational light of natural education: On reading Rousseau's *Emile*. *Ideological and Political Course Teaching*, (06): 95-96.
- [4] Chu, H. Q. (2023). How to Understand the Cultivation of Top-notch Innovative Talents and Its Paths. *Educational Science Research*, (09), 1.
- [5] Wang, Z. L., Wu, Y. R., & Shi, X. F. (2024). Top-notch Does Not Equal Innovative: On Misunderstandings and Solutions in the Cultivation of Top-notch Innovative Talents. *Modern Educational Technology*, 34(12), 5-16.
- [6] Huang, X. (2024). The key to cultivating high-quality top-notch innovative talents lies in four "abilities". *Educational Science Research*, (05): 1.
- [7] Gao, X., & Li, H. S. (2025). Insights from the Educational Thought in *Émile* for "Enlightening Wisdom and Nourishing the Mind" and "Teaching Students in Accordance with Their Aptitude". *Elementary Education Research*, (06), 1-4.
- [8] Wang, X. F. (2024). Rousseau's Moral Education Thought and Its Implications (Master's Thesis). Central China Normal University.

- [9] Kong, X. H. (2019). The rational light of natural education: On reading Rousseau's Emile. *Ideological and Political Course Teaching*, (06): 95-96.
- [10] Wang, L. Q. (2023). An analysis of the training mode of top-notch innovative talents in colleges and universities in the new era: A review of "Study on the Training Mode of Top-notch Innovative Talents in Colleges and Universities". *Journal of the Chinese Society of Education*, (01): 113.