

A Study on Strategies for Cultivating Future Interdisciplinary Humanities Talents*

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ABSTRACT

The introduction and adoption of new technologies, symbolized by the 'Industrial revolution and post-COVID-19,' are driving a swift societal transformation. Therefore, this study compared and analyzed the humanities convergence project Humanities-related Project and Domestic university financial support project in South Korea. Through a comprehensive analysis of pertinent literature derived from previous research and made efforts to formulate both the feasibility and strategies for the cultivation of future talents capable of addressing societal challenges and meeting the demands of the society.

Three humanities support project and support Korea domestic university finance (ACE+, LINC+, BK21+, CK-1/K-2, HK+, PRIME) are part of fostering humanities and convergence talents. By doing so, this study proposed specific approaches, including 1) policies for convergence talent development, 2) innovation in educational curriculum, 3) reform of teaching methods, 4) collaboration and networking, and 5) sharing of talent development infrastructure.

1. Introduction

In the era of the Fourth Industrial Revolution, it is imperative for individuals, businesses, and nations to make precise prognostications and gain a profound understanding of how this revolution will impact our lives. As society advances, and Fourth Industrial Revolution technologies assume

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a central role, there is a burgeoning recognition of the necessity for individuals possessing essential human and social competencies, which underpin our humanity, as soft skills are regrettably receiving insufficient attention. Consequently, there is an intensified emphasis on ethics, moral discernment, and empathy towards others. Simultaneously, there arises a demand for the capacity to engage multidisciplinary knowledge to surmount the challenges presented by science and technology. Collaboration among nations in the milieu of global competition is essential, as is the resolution of intricate issues like climate change, aging, and societal predicaments. It is becoming increasingly evident that a more proactive approach is requisite for tackling the formidable challenges of the global era (Noh et al., 2019).

Demand for interdisciplinary convergence between academic disciplines that offer comprehensive perspectives to address complex societal issues is a global trend. Unlike roles performed by technicians (TECH) who address defined problems, the emphasis is shifting towards the importance of “all-around talents” who can identify and solve undefined problems in an increasingly uncertain reality. The previous studies focused on the research discussing the importance of convergence or deriving convergence talent capabilities. There have not been many feasibility studies on the types of humanities support project in Korea over the past 10years. Accordingly, this study has analyzed the Korean humanities support projects and conducted research considering the educational and policy measures.

Certainly, there are negative perspectives regarding the fusion of the humanities or interdisciplinary research. However, when we reflect on world cultural history, the creation of new cultures has largely arisen from the meeting and collision of different cultures (Hong, 2015). In a world where science and technology are advancing rapidly and undergoing constant change, the pursuit of human-centered problem-solving and solutions through humanities thinking is essential. Therefore, in this study, after establishing the concept of fusion and examining previous research on convergence, a comparative analysis is conducted between domestic humanities-based fusion objectives and implementation projects. Through this initiative, this study aims to contemplate the type of interdisciplinary talent required as the humanities continue to evolve in future society and explore how to address the evolving demands of our society.

2. Materials and Methods

2.1 *The definition and concept of convergent talent*

The concept of fusion emphasizes the ability to relate and connect dissimilar elements, which were previously separate, as if they were similar. It generally refers to combinations of two or more technologies, disciplines, industries, etc., that produce a new, emergent synergy through their chemical integration. Therefore, the concept of fusion often refers to activities or initiatives that create something new and innovative through synergistic combinations. While it may appear as a physical amalgamation, it's more appropriately termed “condilience” when different fields integrate or interact with each other to create new concepts or domains, yet retaining their individual character-

istics (KRF, 2023). In the era of the Fourth Industrial Revolution, the scope and subject of fusion expand. That is, the concept is being redefined as a methodology that, irrespective of the field, encompasses organic interaction between technology, the humanities, arts, and more, with the goal of simultaneously enhancing the quality of human life, addressing societal issues, and creating value (Noh et al., 2019).

In the Western context, individuals are defined as human resources, using the term to describe people who can utilize their embodied knowledge, skills, and attitudes to create societal added value (Noh et al., 2022). In that case, a fusion talent refers to an individual who possesses the ability to traverse diverse academic and technological domains, blending various knowledge, skills, and experiences creatively to solve problems and drive innovation. The Ministry of Education (2013) defines creative fusion as the ability or act of creating something new by combining not only scientific, technological, and social knowledge but also humanities-based imagination and artistic sensibilities.

Following the movements by the Ministry of Education, diverse fields have been formulating definitions for convergent talents. This concept is broadly accepted as emphasizing the effective blending of specialized knowledge from various fields and collaborative efforts to develop and apply new ideas, products, services, or solutions. Creative and fusion-oriented talents for the future society can be defined as individuals who can reinterpret and apply existing knowledge in innovative ways, engage in integrative thinking by acquiring and connecting knowledge from different domains, and possess curiosity and empathetic communication skills (Oh et al., 2015).

It refers to individuals with creative problem-solving abilities based on a foundation of humanities knowledge. In a broader sense, it denotes individuals who possess diverse knowledge, ranging from key academic fields to peripheral disciplines, transcending the era of specialists with in-depth knowledge (knowledgeable), even the era of “T-shaped individuals” who integrate various forms of expertise, signifying “V-shaped individuals” who have a wide spectrum of knowledge (Kim et al., 2020), possess multiple talents across various domains, such as science, technology, engineering, arts, and mathematics, encompassing both expert-level and everyday-level creative problem-solving abilities, as well as skills in integrative thinking, and with a focus on the engineering field, maintain the competence to acquire expertise in the humanities and social sciences, enabling engineers to generate diverse and innovative ideas.

2.2 Previous studies

In accordance with the changing times, fusion talent is considered a core driver of competitiveness. Various scholars have already been discussing the significance of fusion. Kim (2011) discusses how changes in demographic structures and diversification, economic and social polarization, individual mobility in the globalization of power, the convergence of technology and the emergence of artificial intelligence, climate change, and energy crises, among other megatrends, necessitate not only future-adaptive talents but also future-creative talents.

Kim et al. (2020) conducted research to extract the future talent profile in light of the advent of the Fourth Industrial Revolution and, based on this, provided policy recommendations by categorizing

them into various educational domains to establish the direction of future education in terms of perspective and discussion.

As part of one of the six major tasks in 2010, aimed at ‘Fostering Globally Competitive Science and Technology Talent,’ strategies were put in place to enhance STEAM (Science, Technology, Engineering, Arts, and Mathematics) education at elementary and middle schools. These efforts were officially ratified the following year. With initiatives such as the ‘Second Basic Plan for Nurturing and Supporting Science and Technology Talent’ and the ‘Long-term Plan for Fusion Talent Education,’ the government took the lead in promoting fusion talent education at the national level (The Ministry of Education, 2017). Noh (2021) has examined what constitutes an excellent interdisciplinary talent for nurturing creative talents from abroad in terms of education systems and policy support for fostering international interdisciplinary talents, and identified the prerequisites for talent development. She has derived a step-by-step roadmap for interdisciplinary education that is suitable for the current state of universities in South Korea.

In the context of a study on the extraction of interdisciplinary talent competencies, Park (2014) conducted research that identified a total of 26 sub-factors. These include four elements for ‘cognitive ability,’ six elements for ‘interdisciplinary cognitive ability,’ five elements each for ‘interdisciplinary performance ability’ and ‘interdisciplinary problem-solving ability,’ and six elements for ‘positive values and attitudes.’ It is argued that we should pay attention to the autonomous functioning of the humanities in advanced countries. Kim (2019) emphasizes the need for cultivating creative interdisciplinary talents based on creativity, integrative thinking, communication skills, and empathy, particularly drawing on contemporary interests to generate ideas based on knowledge and experience, as well as problem-solving abilities through design thinking and logical approaches. Kwak et al. (2019) extracted the competencies that future interdisciplinary science and technology talents should possess and explored the ideal characteristics of future schools to nurture these competencies, along with teaching methods, assessment techniques, as well as the competencies and training approaches for teachers.

Min and Kim (2016) conducted a study to explore the direction of the ‘cultivation of creative and interdisciplinary talents’ approach, which was selected as a core task for normalizing public education through the revised 2015 curriculum. Jang (2021) diagnoses the crisis era from a medium to long-term macro perspective and emphasizes the need for a holistic approach that actively integrates human and social issues with a focus on technology development-based scientific research issues in seeking solutions and future development strategies.

In China university also study interdisciplinary talent training model with the literature (Xu et al., 2023). According to Yuanjun et al. (2021) tens of years of exploration and trying, an advanced interdisciplinary training system is established. This paper susjext that includes a training chain with multiple angles, an open study and research platform with international organizations, and a collaborative mode with important national projects.

3. Research Methodology

In the previous studies mentioned, the concept of interdisciplinary talent and the need for cultivating such talent were examined. A roadmap for the feasibility and approaches to future talents in South Korea, responding to solving problems in the future society and societal demands, is aimed to be established through a survey of reference literature from previous studies. To this end, the research methodology is as outlined in Table 1 below.

Table 1. Research procedure for developing humanities and social sciences talent cultivation strategies

Procedure	Step	Description
Convergence talent	Concept / Need	Definition and concept of convergence talent
		Review of previous studies to foster core convergence talent and derive convergence talent capabilities
Comparative analysis of humanities convergence talent training and education projects	Investigation target	Humanities-related project
		College of humanities' Research and Education (CORE) project
		Digital (Nurturing talent in new technology) Convergence and Open Sharing System (COSS) project
		The Humanities Utmost Sharing System (HUSS) project
		Domestic university financial support project
		University specialization project (CK-1)(CK-2)
Convergence talent training plan and strategy	Feasibility	Feasibility analysis of convergence talent training
		Impact of cultivating humanities and social sciences convergent talents
Convergence talent training plan and strategy	Policy direction	Convergence talent development policy
		Innovation in the curriculum
		Reform of teaching methods
		Collaboration and networking
		Sharing of talent development infrastructure
Convergence talent training plan and strategy	Roadmap	Establishment for nurturing convergence talent

4. Analysis of Domestic and International Interdisciplinary Talent Development Education Programs

4.1 Humanities-related projects in South Korea

The College of humanities' Research and Education (CORE) Project is an initiative aimed at fostering creative talents equipped with humanistic qualities such as critical thinking, insight, and problem-solving skills, recognizing the need for creative talents in Korean society and the importance of humanistic competencies for sustainable development. It focuses on the development of research and teaching faculty with an emphasis on nurturing global regional experts, with the goal of promoting the sustainability and establishing a humanities ecosystem. The policy objective is to achieve 1-10-10, which means that within the next 10 years, Korean universities in the field of humanities should rank within the top 100 worldwide, and there should be a 10% increase in employment rates.

The background of the "Digital (Nurturing Talent in New Technology) Convergence and Open Sharing System (COSS) Project" is to bring together and share the capabilities of Korean universities, research institutions, industries, government departments, and others in order to develop diverse interdisciplinary education programs in the field of new technology, and to foster talent at various levels. Education opportunities (Second Chance) should be provided, along with the establishment of an inclusive educational safety net, for undergraduate students, as well as non-specialized students in humanities and social sciences, who are in the educational blind spots of emerging technology fields. The vision of this project is to nurture essential talents in digital emerging technologies through sharing, openness, and collaboration. The goal of the initiative is to produce 100,000 new technology talents through the establishment of an innovative shared university system.

The Humanities Utmost Sharing System (HUSS) Project is an initiative aimed at addressing the challenges faced by humanities majors in real-world employment, which have increased due to the growing mismatch between their majors and job responsibilities. It seeks to expand interdisciplinary education in various fields and promote a convergence approach based on humanities and social sciences to solve future societal problems. There is also a growing trend of actively nurturing individuals with problem-solving abilities and interdisciplinary thinking through diverse interdisciplinary education overseas. Ben Nelson, the founder of Minerva University, stated, "What's important is not memorizing knowledge but cultivating critical thinking and adaptability. Education that focuses on immersing oneself in a specific subject or major is less effective." The backgrounds, objectives, strategies, participating units, project duration, and the talent development programs in convergence are compared and analyzed as shown in Table 2.

Table 2. Comprehensive comparison table of projects in the humanities and social sciences field

Project name	College of humanities' Research and Education (CORE) project	Digital Convergence and Open Sharing System (COSS) project	The Humanities Utmost Sharing System (HUSS) project
Back-ground	<ul style="list-style-type: none"> - Need for creative talent is in Korean society - Need for nurturing global regional experts - Need for cultivating excellent research and teaching personnel 	<ul style="list-style-type: none"> - Establishment of a new higher education system that nurtures future talent through mutual sharing and cooperation between universities based on digital technology 	<ul style="list-style-type: none"> - The rapid societal change characterized by the adoption and utilization of new technologies, represented by the 'Fourth Industrial Revolution and Post-COVID-19,' where technology and life become synonymous - Humanities majors are facing significant challenges in terms of employment and social integration, and the crisis in universities due to a decrease in the student population is leading to a trend of crisis in humanities and social sciences departments as well as small regional universities
Goal	<ul style="list-style-type: none"> - Achieve 10-10-10 (10 (within the next 10 years) - 10 (Number of universities in the world's top 100 in the field of humanities) - 10 (10% point increase in employment rate) 	<ul style="list-style-type: none"> - Cultivate 100,000 talents in new technology fields by 2026 	<ul style="list-style-type: none"> - Cultivate 10,000 convergence talents based on humanities and social sciences by 2028 - Cultivating students in humanities and social science departments into humanities and social competencies and convergence talents in the humanities and social science fields
Strategy	<ul style="list-style-type: none"> - Establish various humanities education tracks that meet societal demands to expand students' career choices. - Restore the capacity to train research and teaching personnel in domestic universities through the protection and enhancement of pure humanities as a foundational discipline. - Implement and solidify humanities general education for students across all disciplines 	<ul style="list-style-type: none"> - Establishment of a shared university system in emerging technology fields. - Development of standardized curricula for different emerging technology fields. - Providing opportunities for all aspiring students to participate. - Addressing blind spots in cultivating talent in emerging technology fields through gradual expansion. 	<ul style="list-style-type: none"> - Cultivating talents with basic humanities and social skills, including soft skills. - Developing talents with specialized knowledge on consortium topics (preparing researchers and experts). - Conducting advanced education to acquire specialized knowledge on the topic and, if necessary, considering the establishment of related major courses in the respective topic or field.
Project participating unit	<ul style="list-style-type: none"> - A humanities university composed of humanities departments. - Even in the case of a complex college or multiple colleges consisting of both humanities and non-humanities departments, the (complex) humanities college should remain at the center. - In the case of a basic general education college model, participation is possible even if a humanities college is absent 	<ul style="list-style-type: none"> - A consortium composed of universities nationwide that provide financial support, including general universities, industrial universities, and junior colleges. 	<ul style="list-style-type: none"> - Federation of humanities, social sciences and engineering - Inter-university associations
Eligibility	<ul style="list-style-type: none"> - National 4-year general universities (universities under Article 2, Paragraph 1 of the Higher Education Act) 	<ul style="list-style-type: none"> - General university, industrial university, junior college that meets the requirements (revision of school regulations) 	<ul style="list-style-type: none"> - A consortium composed of universities nationwide that provide financial support, including general universities, industrial universities, and junior colleges.
Performance evaluation	<ul style="list-style-type: none"> - 	<ul style="list-style-type: none"> - Annual evaluation and stage evaluation: Conduct performance evaluations to assess compliance with agreement terms, progress and achievement of project implementation, and execution performance, among other factors 	<ul style="list-style-type: none"> - Annual evaluation and stage evaluation: Conduct performance evaluations to assess compliance with agreement terms, progress and achievement of project implementation, and execution performance, among other factors

4.2 Difference analysis compared to domestic university financial support programs

Initiative for College of humanities' Research and Education (CORE) Project strives to cultivate 'institutions of effective teaching' by manifesting the university's educational philosophy, vision, and talent ideals, while also developing and spreading outstanding models for undergraduate education. In response to the need for nurturing global regional experts, the project categorizes five regional areas in South Korea and sets criteria for standardization to prioritize the cultivation of global regional experts well-versed in the languages, cultures, societies, histories, and economies of various regions worldwide at the national strategic level.

The BK-21/BK-21 Plus Project was established to provide stable support for the living expenses of humanities graduate and doctoral students, as well as emerging researchers, enabling them to focus on education and research. Furthermore, from 2014 to 2018, the Regional University Specialization Projects (CK-1) and (CK-2) were carried out for 5 years in order to enhance the competitiveness of regional universities, particularly in the face of increasing disparities between urban and rural areas.

Individual universities were encouraged to autonomously design and pursue projects, taking into consideration regional conditions and characteristics. In South Korea, there is the Humanities Korea Plus (HK+) Project, which focuses on strengthening humanities research centers within universities, building infrastructure for humanities research, and creating internationally renowned achievements in humanities research. These contents are summarized in Table 3 below.

Table 3. Comprehensive comparison table of ACE+, LINC+, BK21+, CK-1/CK-2, HK+, PRIME project

Comparison	Project					
	ACE+	LINC+	BK21+	CK-1/CK-2	HK+	PRIME
Purpose	Expansion and revision of Advanced College Education (ACE) with the goal of fostering 'universities that teach well' and simultaneous enhancement of the program	Project for University Development Fostering Industry-Academia Collaboration Tailored to Societal Need	Cultivating Successors in Master's and Doctoral-Level Academic Research	Improving University Structure through Reform and Establishing a Specialization Foundation	Group Research Support from the Perspective of Enhancing University Research Institute Capabilities and Accumulating Fundamental Knowledge Necessary for National Management and Academic Infrastructure Development	Activation of Industry-Academia Collaboration in Education, Improvement of a University Structure Centered on Societal Demand
Characteristics	Improvement of the Overall Undergraduate Education System	Enhancing Autonomy and Diversification in Industry-Academia Collaboration and Promoting Sustainability for Tailored Social Education Activation	Enhancing Graduate School Education and Research Capabilities	Individual Universities Independently Design and Implement, Considering Regional Conditions and Characteristics.	In order to promote the maximum utilization of the established research infrastructure, select outstanding research centers from those that concluded their activities in 2018 and 2019 and provide support (HK+ Program Type 2).	Reducing the liberal arts and fine arts disciplines and expanding the science and engineering disciplines to address the mismatch between industry and university personnel, promoting internal reforms through agreements between faculty and students.

Comparison	Project					
	ACE+	LINC+	BK21+	CK-1/CK-2	HK+	PRIME
Period	4 years (2 years + 2 years), The universities selected in 2016 have 3 years (2 + 1)	5 years (2 + 3) (2017-2021)	2013~2019 (7 Years)	5 years (2014~2018)	7 years (3+4 years)	Phase 1 (Support): 2016-2018 (3 years) Phase 2 (Performance Management): 2019-2023 (5 years)
Category	-	Advanced Industry-Academia Collaboration Type. Societal Tailored Department Emphasis Type	Future-Oriented Creative Talent Development Program Global Talent Development Program Specialized Professional Talent Development Program	University Autonomy Type (60%) Government Supported Type (20%) *Humanities, Social Sciences, Natural Sciences, Arts, and Internationalization on Regional Strategy Type (20%)	(Existing) Humanities Basic Overseas Areas (New) Marginalized/Protected/Creative/Challenging Fields, National Strategy/Convergence (top-down approach) (Common) Regional Humanities Center Functions Provided	Leading Universities in Response to Social Demand (Large): Adjusting at least 10% of the admission capacity (minimum of 100 students or at least 200 students) / Creative Base-Leading Universities (Small): Adjusting at least 5% of the admission capacity (minimum of 50 students or at least 100 students)
Differences compared to previous projects	Improvement of evaluation criteria and evaluation methods Enhancement of autonomy in budget execution Emphasis on collaboration and expansion with other universities	Selection of more than 60% of evaluation committee members through 'external public solicitation' Integration of education and recruitment Establishment of on-site focused infrastructure	Reduce the weight of quantitative performance, such as the number of published papers, and focus on the qualitative outcomes of outstanding representative papers and books. Performance management since 2016 has shifted to a consulting-oriented approach.			

Note 1) Teacher training colleges will receive approximately 500 million won in support, and re-entry universities (universities with a history of support) will receive support at the level of 70% of new entry universities.

Note 2) The ACE+ project has been continuously supported as part of the University Innovation Support Project (2019-2021) since 2019.

Note 3) The HK+ project's performance dissemination and overall management center operational period: September 1, 2017, to August 31, 2019.

The following <Table 4> provides an analysis of the distinctiveness and characteristics of the ACE+, LINC+, BK21+, CK-1/CK-2, HK+, and PRIME projects.

Table 4. Key features of ACE+, LINC+, BK21+, CK-1/CK-2, HK+, and PRIME projects

ACE+	LINC+	BK21+	CK-1/CK-2	HK+	PRIME
Overall Undergraduate Education System Improvement	Enhancing Autonomy and Diversification in Industry-Academia Collaboration, Improving Sustainability, and Activating Customized Social Education	Enhancement of Graduate School Education and Research Capacity	Individual universities autonomously design and implement, considering regional conditions and characteristics	Selecting and supporting outstanding research institutes from those concluded in 2018 and 2019 to promote active dialogues and utilization of research infrastructure (HK+ Project Type 2)	Expanding the field of science and engineering at the expense of humanities and the arts to address the mismatch between industry and university personnel, and promoting internal reforms through agreements between faculty and students

5. Convergence Talent Development Approach and Strategy

Advanced countries recognize the importance of fostering interdisciplinary talents and are making significant efforts to integrate and promote interdisciplinary education into their curricula. Currently, there is also an awareness of the need for cultivating interdisciplinary talents in South Korea, and domestic humanities-related projects and financial support programs have been established within domestic universities for over a decade.

While The College of Humanities' Research and Education (CORE) Project, which focuses on fostering creative talents and global regional experts in Korean society, as well as the Digital Convergence and Open Sharing System (COSS) Project and The Humanities Utmost Sharing System (HUSS) Project, which aim to establish a new higher education system that nurtures future talent through mutual sharing and collaboration among universities based on digital technology, have already established strategies to foster a technological system and creativity based on the humanities, they must be solidified as South Korea's leading educational programs through short-term support. In leading advanced nations like the United States, Japan, and the United Kingdom, the focus has shifted towards establishing critical thinking, problem-solving skills, and communication abilities as essential competencies, aiming to revamp the educational curriculum.

In the case of the United States, STEM2026 emphasizes individual value-oriented competencies for the well-being of both the individual and society, while Japan has reformed its educational curriculum with a focus on proactive and dialogic deep learning (ACTIVE-LEARNING) (The Ministry of Education a, 2020). Accordingly, in an era where the convergence of technology and emotions holds increasing significance, this study suggests ways and strategies for a long-term sustainable solutions by considering the cultivation of convergent talents.

Having formulated measures and detailed strategies for nurturing convergence talents, the following key measures are proposed as a result: 1) Convergence talent development policy, 2) Innovation in the curriculum, 3) Reform of teaching methods, 4) Collaboration and networking, 5) Sharing of talent development infrastructure. As specific measures, the following considerations can be taken into account.

First, as part of the convergence talent development policy, educational innovation through interdisciplinary fusion can be implemented by organizing university-specific convergence major dedicated control towers to provide support and management. Enhancing the existing convergence programs while avoiding university-specific forms of consolidation for convergence departments, the dedicated organization can serve the role of revising and performing the establishment of convergence majors that can be envisioned as part of the long-term education plan through mutual agreements between universities.

Second, through a revolution in the curriculum, education that can prepare for the future and address issues that are directly linked to human survival, such as global warming, poverty, and welfare around the world. Furthermore, competency-based curriculum at different levels should be established and pursued in a customized manner according to the type and field-specific needs of convergence talents. In other words, humanities, engineering, and arts students should be classified

into convergence talents based on their characteristics, and differentiation in timing needs to be considered to enable them to grow into convergence talents through collaboration or education.

Third, there is a pressing need to modernize current teaching approaches. In South Korea, a country witnessing a swift decline in birth rates and the acceleration of an aging society, the situation is such that the pool of young talents crucial for future development is diminishing alongside the gradual reduction of the educated population. As a crucial step in the realm of education, the introduction to convergence subjects is advocated to commence at an elementary school level, and to advance progressively in more intricate educational settings.

Within the sphere of domestic education, pioneering initiatives are underway to foster innovative teaching and learning methods, focusing on learner engagement and competency-driven curricula. Furthermore, there is a concerted effort to invigorate the educational landscape by fostering an environment conducive to convergence education. This endeavor includes the establishment of adaptable learning environments and the integration of state-of-the-art technology, all complemented by proactive support measures.

Fourth, it is imperative to enhance collaboration and networking. Humanities encompass the study of human thought, and without a humanistic perspective, it is impossible to address mental health issues, such as loneliness and depression, even in the era of AI (artificial intelligence). The announcement of the 'Mid- to Long-Term Development Plan for Ecological Transition Education, Future Ecological Transition Education (2020-2024) for the next five years, and education on social-ecological systems and complexity are key initiatives for the harmonious coexistence of present and future generations. To achieve this, cooperation and networking to consider and address fundamental human well-being factors must be strengthened.

Lastly, there is a need to promote the sharing of talent development infrastructure. Individual university resources alone have limitations in cultivating effective talent in response to the convergence characteristics and uncertainties of the humanities and social sciences fields. In order to strengthen this, there must be an innovation in methodology, such as strengthening the sharing of convergent talent and vision, and replacing the delivery-type education prevalent in our country's education system with participatory education.

6. Conclusion and Recommendations

International challenges and a multitude of global issues must be addressed to enhance the quality of life and solve problems with substantial socio-economic implications for future society. The summer of 2023 was notably marked by the global impact of climate change, with extreme heatwaves and storms being acutely felt worldwide. Even before the COVID-19 pandemic had fully subsided, the economy experienced a slowdown due to high inflation rates, high-interest rates, and excessive debt burdens. It is imperative to anticipate and address the uncertainties of high-risk, high-value-added situations. International education reports such as OECD DeSeCo, Partnership for 21st Century Skills, and OECD Education 2030 also emphasize the importance of future core competencies (The Ministry of Education b, 2020).

The future talents that our society currently desires are those who can redefine uncertain futures and societal issues, lead the development and transformation of their respective fields as creative individuals, step beyond the fixed frameworks for problem-solving, intuitively perceive the situations, and combine specialized knowledge from entirely different domains to generate innovative ideas for solving new challenges. Such competencies are a critical element in discovering individuals capable of leading innovation in an era that transcends industrial convergence and interdisciplinary boundaries.

To discover and promote leading convergent fields for overcoming societal challenges, key Big Ideas are identified, and researchers share their expertise, deriving a variety of convergent themes and initiating their transformation into R&D projects. Humanities and social sciences need to break free from the boundaries of specialized fields and actively engage in interdisciplinary research with science and technology. It is important to create an environment where humanities and social science majors can extend their activities beyond the confines of the university into various fields and regions, securing global competitiveness.

However, in South Korea, there is a significant gap between the education system for talent development and the demand for skilled personnel in industries. There is also a need for financial support in higher education for the education of convergence talents (STEAM). Domestic humanities-related projects include the College of humanities' Research and Education (CORE) Project, Digital(Nurturing Talent in New Technology) Convergence and Open Sharing System (COSS) Project, The Humanities Utmost Sharing System (HUSS) Project (plan), university specialization project centered on domestic universities, and the Humanities Korea Project (HK), the Humanities Korea Plus Project (HK+), the University Autonomy Capacity Building Support Project, and the BK21 and BK21 Plus projects are also part of the effort to foster the humanities. Nevertheless, there has been a decline in funding for humanities projects in recent times. This aspect gives rise to questions regarding whether our country is overlooking the significance of humanities knowledge when contemplating the development of convergence-type talents.

This study discussed about the strategies and plans for cultivating future convergence talents capable of creating new areas and values. As key measures for cultivating convergence talents in the humanities, the following proposals are put forward: 1) Convergence talent development policy, 2) Curriculum innovation, 3) Reform of teaching methods, 4) Collaboration and networking, 5) Sharing of talent development infrastructure.

As for specific measures, the following considerations can be taken into account: tailored policy implementation based on the type and domain of convergence talents, collaborative development and operation of curricula for global issues, construction of competency-centered curriculum at different levels, development and operation of competency-centered extracurricular programs, dissemination of problem-solving and student-participatory convergence education, development of project-based classroom models to enhance creative and convergence competencies, establishment of a network between convergence education institutions, strengthening of interaction and collaboration among convergence researchers and educators, program establishment through the sharing of resources for cultivating convergence talents and the sharing of educational expertise internationally.

Conflicts of Interest

The authors declare no conflict of interest.

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