A Study on Developmental Strategies for Improving the Quality of Secondary Special Education for Students with Disabilities

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Abstract

In the era of the fourth industrial revolution, addressing the multifaceted learning needs of students with special needs has become increasingly pivotal. This study aims to explore and enhance the quality of secondary special education, adapting to new educational methodologies in tandem with technological advancements while fostering the development of teachers and educational stakeholders. To identify the key areas necessitating development in secondary special education, interviews were conducted with special education teachers. These interviews informed the creation of a questionnaire, which was subsequently disseminated through a Google survey to special education teachers in various special schools and classes nationwide. The survey responses were analyzed using descriptive statistics to gain comprehensive insights. This study's findings integrate the perspectives from the interviews and survey data, leading to the formulation of strategies for the advancement of secondary special education. The analysis categorized the developmental needs into four primary domains: teacher development, curriculum enhancement, school infrastructure, and external factors related to the school environment. The paper concludes with a discussion that synthesizes these findings, offering a pathway for future improvements in the quality of secondary special education, and highlighting the importance of adapting to the changing educational landscape in the era of technological progress.

Keywords: quality of secondary special education, quality of life, students with disabilities

1. Introduction

Today, special education is oriented towards the practical community integration of students with special educational support needs. This concept of 'practical community integration' extends beyond mere school-based assimilation, aiming to facilitate an autonomous and substantive existence as societal members. Such existence is characterized by sustained engagement in community activities, the pursuit of personal interests and hobbies, and the achievement of further educational and vocational milestones post-graduation (Capin & Vaughn, 2017; Cho, 2005; Kauffman, Hallahan, & Pullen, 2017; Lombardi et al., 2022; Biklen & Zollers, 1986; Mazzotti et al., 2016). Therefore, it is imperative that educational programs during the formative school years are meticulously designed to equip students with disabilities for a life of independence and significance as adults (Kraemer & Blacher, 2001; Packard, Hazelkorn, Harris, & McLeod, 2011).

It is a widely acknowledged premise that the efficacy of special education programs markedly influences the educational trajectories of students with disabilities (Talbott et al., 2023). Comprehensive training through robust programs positively correlates with enhanced transitional outcomes post-graduation (Kohler et al., 2016; Rivera, McMahon, & Keys, 2014; Shaffer & Thomas-Brown, 2015). Contrastingly, students without disabilities typically explore diverse career avenues such as higher education or direct employment upon completing high school. However, the vocational pathways available to students with disabilities tend to be more limited, often leading to their reintegration into institutional settings or familial dependencies post-graduation. Consequently, educational institutions bear a significant responsibility in facilitating the effective social and vocational transition of students with disabilities into adult society, primarily through the provision of high-quality special education programs (Morningstar & Clavenna-Deane, 2014).

The significance of education and training within high school programs is heightened by the increasingly diverse career trajectories available to students with disabilities, including various professions and entrance into higher education institutions. The expanding social recognition of individuals with disabilities has broadened the range of achievable career outcomes post-graduation. However, in the absence of adequate preparation through these high school programs, navigating and settling into these varied career paths becomes markedly challenging. Consequently, the provision of quality special education programs is pivotal for ensuring a successful transition (Titus-Schmahl, 2010). This is predicated on the understanding that high-caliber secondary special education programs not only foster positive transitional outcomes but also significantly contribute to the academic and social development of the students.

Students with disabilities necessitate more comprehensive preparation in comparison to their peers without disabilities for navigating and readying themselves for various career paths (National Institute for Special Education, 2010). This is particularly salient for students with cognitive impairments, who require systematic preparation through secondary education programs. The enhancement of life quality for students with disabilities hinges on the availability and implementation of high-quality education programs, with the improvement in the quality of secondary special education being a critical factor (Test et al., 2009). Consequently, the objective of this study is to scrutinize and identify the developmental areas that are crucial for elevating the standard of secondary special education.

2. Method

2.1 Subject of Study

This study focused on special education teachers employed in specialized schools and classes nationwide. To ascertain the key development areas essential for enhancing the quality of secondary special education, interviews were conducted with these educators. Subsequent to these interviews, questionnaires were devised, reflecting the insights gathered from the teachers' perspectives. These questionnaires were disseminated to the special education teachers utilizing Google. The collected data underwent a thorough analysis, wherein responses deemed as insincere or incomplete were excluded from the final evaluation.

2.2 Research Tools and Procedures

Interviews were conducted to identify critical and immediate tasks for special education teachers, focusing on developmental plans to enhance the quality of secondary special education. The interview findings suggested that improvement areas could be broadly categorized into four domains: teacher expertise, curriculum, school infrastructure, and external support systems. Within the teacher domain, the emphasis was on augmenting the expertise of special education teachers. Regarding curriculum, the necessity of enriching curriculum execution, advancing the professionalism in career and vocational education, and bolstering integrated education were highlighted. In the school domain, the expansion of special education facilities was deemed crucial. Externally, the enhancement of the special education support system and fortified collaboration with related institutions were considered imperative. Following these expert consultations, a preliminary draft of the questionnaire focusing on the development plan for secondary special education was formulated. This draft underwent a pre-survey with special education teachers in specialized schools and classes, aiming to refine the questionnaire content for clarity and field applicability. The Google survey, subsequently distributed to teachers, enabled the identification of the most pressing and significant developmental sub-areas. The structure and contents of the questionnaire are detailed in Table 1.

2.3 Data Processing

In this study, the collected data underwent statistical analysis using the SPSS 21.0 software. This process allowed for the identification of areas considered both important and urgent in each specified category. Descriptive statistical analysis was applied to each item for a comprehensive understanding. Furthermore, insights gained from the interviews with special education teachers were integrated to interpret the phenomena elucidated through the questionnaire responses.

Table 1. Survey Area and Content

Area	Sub-area	small area
Teacher	Reinforcement of special education teachers	Strengthen training to improve teacher professionalism
		Improving the quality of pre-service special teachers
		Reinforcing the curriculum of teacher training institutions
Curriculum	Internalization of Curriculum Operation	Reinforcing school-centered curriculum operation
		Internalization of individualized education
		Internalization of subject education
		Activation of creative experiential activities
	Career and vocational education specialization	Systematization of conversion education service
		Vocational rehabilitation and employment preparation
		Expansion of community employment links
		Strengthen readiness for higher education
		Expansion of lifelong education opportunities for the students with disabilities
		Expansion of the free semester system for special schools
		Strengthen independent living training
	Internalization of integrated education	Curriculum adjustment
		Integrated class teacher support
		Strengthening integrated education support
		Teachers, general students, and teaching staff Improving awareness of people with disabilities
		Strengthen social skill training for students with disabilities
School	Expansion of special education conditions	Expansion of special education institutions
		Vitalization of establishment of special schools (levels)
		Special schools (levels) Diversification and specialization
		Optimization of student-to-teacher ratio
		Annual increase in special education teachers
		Placement of subjects in accordance with the teacher's major
		Solving overcrowded classes and long distance commuting
External factors outside of school	Strengthening the special education support system	Re-establishment of laws related to special education
		Strengthening special education policy
		Expanding the role of the Special Education Support Center
		Expansion of budget for special education
		Reduced administrative duties for special education teachers
		Increase support for auxiliary manpower
		Implement a process from disability discovery to diagnosis, evaluation, placement, and educational support.
	Cooperation with related institutions	Cooperation between institutions related to special education
		Cooperation with related service support organizations
		Encouraging cooperation between special and general schools.

3. Results

The developmental domains critical for enhancing the quality of special education can be broadly categorized into four key areas: teacher training, curriculum development, school infrastructure, and external support systems. Within the teacher domain, the need for strengthening the capabilities of special education teachers was identified. As for curriculum, it was acknowledged that there is a necessity for more effective internalization of curriculum implementation, enhanced specialization in career and vocational education, and the integration of inclusive education practices. In the school domain, the expansion of special education facilities and resources was deemed essential. Externally, the importance of reinforcing the special education support system and fostering stronger collaboration with affiliated institutions was recognized.

3.1 Teacher Area

Table 2. Demands for Strengthening the Professionalism of Special Teachers (professor in special education major)

Division	Strengthen training to improve teacher professionalism	Improving the quality of pre-service special teachers	Reinforcing the curriculum of teacher training institutions	total
Reinforcement of special education teachers	7 (22)	10 (31)	15 (47)	32 (100)

Table 3. Demands for Strengthening the Professionalism of Special Teachers (special education teacher)

Division	Strengthen training to improve teacher professionalism	Improving the quality of pre-service special teachers	Reinforcing the curriculum of teacher training institutions	total
Reinforcement of special education teachers	75 (49)	23 (15)	54 (36)	152 (100)

When professors specializing in special education were queried about the requisite enhancements in special education teachers' expertise to improve the quality of special education, the responses were prioritized as follows: 'Enhancing the curriculum of teacher training institutions' was highlighted by 15 respondents (47%), followed by 'Improving the quality of pre-service special education teachers' by 10 respondents (31%), and 'Strengthening training programs for enhancing teacher expertise' by 7 respondents (22%) (refer to Table 2).

Conversely, when special education teachers themselves were asked about similar demands, their responses varied in order: 'Strengthening training programs for enhancing teacher expertise' was emphasized by 75 individuals (49%), 'Enhancing the curriculum of teacher training institutions' by 54 individuals (36.0%), and 'Improving the quality of pre-service special education teachers' by 23 individuals (15%) (refer to Table 3).

Special education teachers identified the fortification of teacher training as the most critical and immediate task. During the interviews, teachers expressed the need for flexible training programs, such as online or on-site options, that can be accessed as required, depending on the subject assigned and the specific disabilities of the students under their care. This need arises from the unpredictability of teaching assignments in the field. Additionally, they emphasized the necessity for specific and practical training that can be immediately applied post-training. The teachers also highlighted the importance of multi-level training programs designed to incrementally enhance subject-specific competencies, as well as the provision of training incorporating best practices across various subjects.

Both special education professors and teachers concur on the significance of augmenting training programs to enhance teacher expertise. In both cohorts, this need was identified as a top priority, garnering the highest percentage of responses. However, there is a noticeable divergence in the emphasis on different improvement areas between the two groups. Professors specializing in special education underscored the enhancement of curricula within teacher training institutions as their primary concern. In contrast, special education teachers placed a higher priority on the strengthening of training programs to bolster teacher expertise. These disparities in prioritization can be attributed to the differing perspectives and roles of the two groups. Professors in special education tend to focus on the overarching elements of teacher training institutions, whereas special education teachers, who engage directly in

classroom environments, prioritize more immediate and practical aspects of training programs.

3.2 Curriculum Area

3.2.1 Internalization of Curriculum Operation

Table 4. Demand for Internalization of Curriculum (professor in special education major)

Division	Reinforcing school-centered curriculum operation	Internalization of individualized education	Internalization of subject education	Activation of creative experiential activities	total
Curriculum Internalization of operation	14 (39)	10 (28)	9 (25)	3 (8)	36 (100)

Table 5. Demand for Internalization of Curriculum (special education teacher)

Division	Reinforcing school-centered curriculum operation	Internalization of individualized education	Internalization of subject education	Activation of creative experiential activities	total
Curriculum Internalization of operation	56 (34)	44 (26)	37 (22)	30 (18)	167 (100)

When professors specializing in special education were surveyed regarding the enhancement of curriculum operational aspects to improve the quality of special education, the responses, in order of prevalence, were as follows: 'Enhancing school-based curriculum implementation' was indicated by 14 respondents (39%), 'Strengthening individualized education implementation' by 10 respondents (28%), 'Improving subject-specific education implementation' by 9 respondents (25%), and 'Activating creative experiential activities' by 3 respondents (8%) (refer to Table 4).

Similarly, when special education teachers were questioned on the same topic, the results were: 'Enhancing school-based curriculum implementation' by 56 individuals (34%), 'Strengthening individualized education implementation' by 44 individuals (26.0%), 'Improving subject-specific education implementation' by 37 individuals (22%), and 'Activating creative experiential activities' by 30 individuals (18%) (refer to Table 5).

Special education teachers emphasized the urgency and importance of strengthening school-centered curriculum operations. They noted the challenge in applying a national-level curriculum directly to students with disabilities, underscoring the necessity of a school-centered curriculum tailored to the specific circumstances of the school and the characteristics of its students. The development of such a curriculum should involve the input of a diverse range of stakeholders, rather than a minority, and benefit from the participation of experts from organizations external to the school, reflecting regional characteristics. It was recognized that the key lies in developing a practical, tangible, and operable school-centered curriculum. Moreover, increasing the autonomy of schools in this process was deemed desirable.

Both groups – professors in special education and special education teachers – acknowledge the criticality of enhancing school-based curriculum implementation. This aspect was identified as a top priority by both cohorts, reflecting a unanimous belief in the necessity of effective curriculum implementation tailored to the school environment. Additionally, both groups concur on the importance of strengthening individualized education implementation, underscoring a shared understanding of the need for educational approaches that are customized to the unique requirements of students with special needs. However, there is a variance in the prioritization of these demands between the two groups. While special education professors place the highest emphasis on enhancing school-based curriculum implementation, special education teachers also prioritize this but give more weight to strengthening individualized education implementation. Differences are also apparent in their views on improving subject-specific education implementation and activating creative experiential activities. For professors, improving subject-specific education ranks as the third priority, whereas it is the second priority for teachers. Furthermore, teachers assign greater importance to activating creative experiential activities as compared to professors.

3.2.2 Specialization of Career and Vocational Education

When professors specializing in special education were surveyed about the requirements for enhancing career and

vocational education within the framework of special education quality improvement, the responses were ranked as follows: 'Expanding employment linkage with the local community' was the most frequently mentioned, by 11 individuals (22%), followed by 'Standardizing transition education services' by 9 individuals (18%) (refer to Table 6).

Conversely, when special education teachers were questioned on the same topic, their prioritization included a broader range of responses: 'Expanding employment linkage with the local community' was identified by 49 respondents (23%), 'Standardizing transition education services' by 46 respondents (22%), with additional emphasis on 'Strengthening independent living skills training' by 43 respondents (20%), and 'Vocational rehabilitation and employment preparation' by 41 respondents (19%) (refer to Table 7).

Table 6. Demand for Career and Vocational Education Specialization (professor in special education major)

Division	Systematization of conversion education service	Vocational rehabilitation and employment preparation	Expansion of community employment links	Strengthen readiness for higher education	Expansion of lifelong education opportunities for the students with disabilities	Expansion of the free semester system for special schools	Strengthen independent living training	total
Career and vocational education specialization	11 (22)	9 (18)	11 (22)	2 (4)	10 (20)	0 (0)	7 (14)	50 (100)

Table 7. Demand for Career and Vocational Education Specialization (special education teacher)

Division	Systematization of conversion education service	Vocational rehabilitation and employment preparation	Expansion of community employment links	Strengthen readiness for higher education	Expansion of lifelong education opportunities for the students with disabilities	Expansion of the free semester system for special schools	Strengthen independent living training	total
Career and vocational education specialization	46 (22)	41 (19)	49 (23)	5 (2)	20 (9)	7 (3)	43 (20)	211 (100)

The outcomes of this study underscore that special education teachers consider the integration of students with disabilities into career, vocational education, and employment as a pivotal element for enhancing the quality of special education. The Ministry of Education is currently executing policies geared towards career and vocational education, including the establishment of integrated vocational education base schools, collaborations with special schools and school companies, and overseeing in-school employment initiatives in coordination with the Ministry of Employment and Labor. Additionally, welfare-linked job projects are being managed under the aegis of the Ministry of Health and Welfare. For the effective operation of these policies, there is a necessity for a unified approach encompassing the strategies of the Ministry of Education, the Ministry of Employment and Labor, and the Ministry of Health and Welfare. This unification should facilitate the promotion of related projects through a centralized, one-stop system managed by the Ministry of Education. Moreover, entities such as integrated vocational education base schools, special schools, and school companies, which are integral to the education of students with disabilities, require careful management to ensure their sustainable integration.

Beginning in the winter vacation of 2018, a program was initiated where special teachers were appointed as dedicated career educators in special schools, following 570 hours of training in career and vocational education. This initiative is aimed at deploying educators who possess dual expertise in both special education and vocational education. Consequently, there is an emergent need to cultivate a school environment that enables these professionals

to undertake roles that extend beyond the traditional functions of vocational instructors and career directors, dedicatedly focusing on these specialized tasks.

Both special education professors and teachers collectively recognize the criticality of expanding employment connections with local communities. This consensus, observed across both groups, underscores the shared conviction of the importance of integrating students with special needs into viable employment opportunities within their local environments. Furthermore, there is a unanimous emphasis on the standardization of transition education services. This reflects a mutual recognition of the necessity to establish consistent, effective methodologies for assisting students with special needs in their transition from educational settings to post-school environments, including career and vocational pathways. However, special education teachers identified additional areas of need beyond those highlighted by professors. Alongside expanding employment links and standardizing transition services, they underscored the significance of enhancing independent living skills training, and the provision of comprehensive vocational rehabilitation and employment preparation. These additional facets underscored by special education teachers illuminate the complex nature of career and vocational education within the special education spectrum, emphasizing not only the integration into employment but also the development of critical life skills for independent living and holistic support for vocational rehabilitation and employment readiness.

3.2.3 Internalization of Integrated Education

Table 8. Demand for Internalization of Integrated Education (professor in special education major)

Division	Curriculum adjustment	Integrated class teacher support	Strengthening integrated education support	Improvement of disability awareness among teachers, general students, and faculty	Strengthen social skill training for students with disabilities	total
integrated education internalization	16 (37)	5 (12)	9 (21)	6 (14)	7 (16)	43 (100)

Table 9. Demand for Internalization of Integrated Education (special education teacher)

Division	Curriculum adjustment	Integrated class teacher support	Strengthening integrated education support	Improvement of disability awareness among teachers, general students, and faculty	Strengthen social skill training for students with disabilities	total
integrated education internalization	46 (26)	12 (7)	19 (11)	45 (25)	55 (31)	177 (100)

When professors specializing in special education were consulted about the requirements for enhancing inclusive education as a component of improving special education quality, their responses varied as follows: 'Curriculum adjustments' were deemed necessary by 16 respondents (37%), followed by 'Strengthening integrated education support' by 9 respondents (21%), and 'Strengthening social skills training for students with disabilities' by 7 respondents (16%) (refer to Table 8). In contrast, when special education teachers were questioned regarding the same topic, the prioritization of demands was different: 'Strengthening social skills training for students with disabilities' was the most frequently mentioned, by 55 respondents (31%), followed by 'Curriculum adjustments' by 46 respondents (26%), and 'Improving awareness of disabilities among teachers, regular students, and staff' by 25 respondents (25%) (refer to Table 9)

The findings indicate that special education teachers prioritize strengthening social skills training for students with disabilities as a crucial and immediate task. Indeed, it is acknowledged that students with disabilities often face challenges in social integration with their non-disabled peers due to deficits in social skills. Social development and

the mitigation of problem behaviors are fundamental for facilitating smooth interpersonal relationships and successful integration. Current special education approaches address this need through two primary methods: incorporating social skills training into the curriculum and implementing field trip programs specifically designed for social skills enhancement. Alongside social skills training, another critical aspect is addressing and reducing problem behaviors in students with disabilities. Nationally, there are plans to establish a dedicated team for this purpose, housed within the Special Education Support Center. This team, comprising experts such as doctors and therapists, aims to establish 50 units by 2022. However, it is imperative that this dedicated team functions beyond mere nominal designation, actively engaging in effective interventions for problem behaviors.

Both professors and special education teachers unanimously recognize the significance of curriculum adjustments in fostering inclusive education. They agree that tailoring the curriculum to accommodate the diverse learning needs of students with disabilities is a fundamental component of inclusive education. This consensus reflects a mutual understanding of the necessity for curriculum modifications to ensure equitable access and meaningful participation for all students. Additionally, both groups underscore the importance of enhancing social skills training for students with disabilities, acknowledging that improved social skills are vital for nurturing positive interactions and relationships among all students, including those with disabilities. This underscores a shared belief in the value of social inclusion and the development of interpersonal competencies for students with disabilities.

Furthermore, special education teachers specifically emphasize the need to improve disability awareness among teachers, regular students, and staff. This highlights the importance of creating an inclusive, empathetic school environment where awareness and acceptance of disabilities are cultivated among all school community members. This aspect, while not distinctly emphasized in the responses from special education professors, underlines the differing focuses of these two groups. Professors in special education may concentrate more on the broad, theoretical constructs of the field, whereas special education teachers, given their direct and daily interaction with students, are more attuned to the immediate, practical needs and challenges encountered in the educational setting

3.3 School Area

Table 10. Demand for the Expansion of Special Education Infrastructure (professor in special education major)

Division	Expansion of special education institutions	Vitalization of the establishment of special schools (levels)	Establishment of special schools (levels) Diversification and specialization	Optimization of student-to-teacher ratio	Annual increase in special education teachers	Placement of subjects in accordance with the teacher's major	Solving overcrowded classes and long distance commuting	total
Expansion of special education infrastructure	4 (9)	3 (7)	10 (23)	9 (21)	7 (16)	6 (14)	4 (9)	43 (100)

When professors in the field of special education were surveyed about the requirements for enhancing special education conditions within the school domain, their responses prioritized as follows: 'Diversification and specialization of special schools' was identified by 10 respondents (23%), 'Optimal student-to-teacher ratio' by 9 respondents (21%), 'Increasing the number of experienced special education teachers' by 7 respondents (16%), and 'Appropriate placement of subjects according to the teacher's expertise' by 6 respondents (14%) (refer to Table 10).

On the other hand, when special education teachers were queried about the same aspect, their responses indicated different priorities: 'Optimal student-to-teacher ratio' was emphasized by 59 individuals (30%), followed by 'Diversification and specialization of special schools' by 34 individuals (17%), 'Increasing the number of experienced special education teachers' by 31 individuals (16%), and 'Resolving issues of overcrowded classrooms and long-distance commuting' by 30 individuals (15%) (refer to Table 11).

These results illuminate a shared recognition between both groups of the need for optimal student-to-teacher ratios and enhancing the diversity and specialization of special schools. However, there is a notable difference in prioritization. Special education teachers particularly underscore the importance of addressing practical issues such as overcrowded classrooms and long-distance commuting, in addition to staffing and school diversity concerns. This

variation in responses may reflect the direct experience of teachers in dealing with day-to-day operational challenges within the school environment, compared to the more theoretical or policy-oriented focus of special education professors.

Table 11. Demand for the Expansion of Special Education Infrastructure (special education teacher)

Division	Expansion of special education institutions	Vitalization of the establishment of special schools (levels)	Establishment of special schools (levels) diversification and specialization	Optimization of student-to-teacher ratio	Annual increase in special education teachers	Placement of subjects in accordance with the teacher's major	Solving overcrowded classes and long distance commuting	total
Expansion of special education infrastructure	21 (11)	8 (4)	34 (17)	59 (30)	31 (16)	14 (7)	30 (15)	197 (100)

The findings clearly indicate that special education teachers perceive optimizing the student-to-teacher ratio as the most critical and immediate objective. This necessitates the government's continued commitment to expanding the number of special schools and classes and increasing the allocation of special education teachers. Addressing the urgent need to augment the number of special teachers is essential to guarantee the right to education for those requiring special education. Furthermore, enhancing the quality of education mandates an increase in the teacher-student ratio per class. This adjustment is pivotal for reducing class sizes and providing high-quality, individualized education.

Both groups – special education professors and teachers – unanimously acknowledge the importance of optimizing the student-to-teacher ratio. They concur that a lower ratio is advantageous for delivering individualized attention and support to students with special needs, demonstrating a shared understanding of its necessity for effective instruction and support. Additionally, both groups underscore the need to increase the number of experienced special education teachers. This reflects a collective recognition of the value of having skilled, knowledgeable educators adept at addressing the diverse requirements of students with special needs, highlighting the consensus on the significance of experienced educators in providing superior special education.

There is a discernible divergence in the response order between the two surveyed groups. For professors specializing in special education, the most emphasized demand is the 'Diversification and specialization of special schools.' In contrast, special education teachers prioritize the 'Optimal student-to-teacher ratio' as their foremost concern. This disparity highlights a difference in focus between the groups regarding their priorities within the 'school' domain of special education conditions. Specifically, special education teachers underscore the need to address issues related to overcrowded classrooms and long-distance commuting. This reflects their acute awareness of the challenges posed by large class sizes and the importance of ensuring accessible schooling for students with special needs. This particular aspect is not prominently featured in the responses of special education professors, indicating differing perspectives and roles. Professors in special education may concentrate on broader, theoretical aspects of the field, whereas special education teachers, with their direct involvement in school environments, are more attuned to the immediate, practical challenges and demands encountered in their daily practice.

3.4 External Factors Outside the School

3.4.1 Strengthening the Special Education Support System

When professors specializing in special education were surveyed regarding the demands for strengthening the special education support system in the 'external' domain to enhance the quality of special education, their responses were as follows: 'Enhancing special education policies' was the primary demand, cited by 11 individuals (24%), followed by 'Expanding the role of the Special Education Support Center' with 10 individuals (22%), and 'Streamlining administrative tasks for special education teachers' with 8 individuals (17%) (refer to Table 12)

Conversely, when special education teachers were questioned on the same topic, the most frequent response was 'Streamlining administrative tasks for special education teachers,' indicated by 55 respondents (27%). This was followed by 'Expanding the budget for special education-related purposes' with 33 individuals (16%), 'Enhancing

special education policies' with 27 individuals (13%), and 'Increasing support from auxiliary personnel' with 25 individuals (12%) (refer to Table 13).

Table 12. Demand for Strengthening the Special Education Support System (professor in special education major)

Division	Re-establishment of laws related to special education	Strengthening special education policy	Expanding the role of the Special Education Support Center	Expansion of budget for special education	Reduced administrative duties for special education teachers	Increase support for auxiliary manpower	disability discovery → diagnosis evaluation → placement → educational support	total
Strengthening the special education support system	3 (7)	11 (24)	10 (22)	3 (7)	8 (17)	4 (9)	7 (15)	46 (100)

Table 13. Demand for Strengthening the special Education Support System (special education teacher)

Division	Re-establishment of laws related to special education	Strengthening special education policy	Expanding the role of the Special Education Support Center	Expansion of budget for special education	Reduced administrative duties for special education teachers	Increase support for auxiliary manpower	disability discovery → diagnosis evaluation → placement → educational support	total
Strengthening the special education support system	18 (9)	27 (13)	22 (11)	33 (16)	55 (27)	25 (12)	24 (12)	204 (100)

These results reveal that special education teachers consider the reduction of administrative workload as their most pressing and urgent task. A significant number of teachers expressed a need to alleviate administrative duties to focus more effectively on class preparation, despite acknowledging the importance of policy and legislative revisions. The reality, as pointed out by teachers, involves undertaking comprehensive responsibilities such as location scouting, reservation making, and conducting preliminary visits for student field trips. This highlights the necessity of expanding workforce support to alleviate these burdens.

3.4.2 Cooperation with Related Organizations

Table 14. Demand for Cooperation with Related Institutions (professor in special education major)

Division	Cooperation between institutions related to special education	Cooperation with related service support organizations	Cooperation between special schools and general schools	total
Cooperation with related institutions	14 (45)	11 (35)	6 (19)	31 (100)

Table 15. Demand for Cooperation with Related Institutions (special education teacher)

Division	Cooperation between institutions related to special education	Cooperation with related service support organizations	Cooperation between special schools and general schools	total
Cooperation with related institutions	49 (33)	79 (53)	22 (15)	150 (100)

When professors specializing in special education were queried about the necessity for collaboration with relevant institutions in the 'external' domain to enhance special education quality, their responses were prioritized as follows: 'Collaboration among special education-related institutions' was most frequently cited by 14 individuals (45%), followed by 'Collaboration with relevant service support agencies' with 11 individuals (35%), and 'Collaboration between special schools and regular schools' with 6 individuals (19%) (refer to Table 14).

Conversely, when special education teachers were surveyed on the same matter, the results indicated a different order of priority: 'Collaboration with relevant service support agencies' was emphasized by 79 respondents (53%), 'Collaboration among special education-related institutions' by 49 respondents (33%), and 'Collaboration between special schools and regular schools' by 22 respondents (15%) (refer to Table 15).

These findings suggest that special education teachers view collaboration with related service support organizations as the most critical and immediate need (Flowers et al., 2018). Specifically, they highlight the importance of enhancing the quality of special education-related services that are directly provided to students with disabilities within schools. Some teachers reported challenges in accessing immediate, necessary treatment support at school, separate from external treatment services. There was a consensus on the need for a system that allows external treatment experts to enter schools. Additionally, the provision of service support for facility access, mobility convenience, and psychological well-being for students with severe or multiple disabilities was suggested as essential (Noonan, Gaumer-Erikson & Morningstar).

4. Discussion and Conclusion

To enhance the quality of special education, developmental areas were broadly categorized into four domains: teachers, curriculum, schools, and external aspects of the school environment. Within the teacher domain, the primary focus is on augmenting the expertise of special education teachers. In terms of curriculum, priorities include the reinforcement of curriculum execution, specialization in career and vocational education, enhancement of integrated education, and in the school domain, the expansion of special education conditions. Additionally, in the external domain, strengthening the special education support system and fostering collaboration with related institutions were identified as key areas. A survey was conducted to explore these aspects, and the results were thoroughly analyzed.

First, in the teacher domain, special education teachers identified the fortification of teacher training as the most vital and urgent task for enhancing their expertise (Schmidt et al., 1997; Shaffer & Thomas-Brown, 2015). The teachers advocated for the enhancement of flexible training programs, such as online or on-site options, tailored to their assigned subjects and the specific disabilities of the students they would be teaching (Shaffer & Thomas-Brown, 2015). Regarding the training itself, there was a consensus on the need for specific, practical training that could be immediately applied in the field. Furthermore, the provision of multi-level training programs was recognized as essential for progressively strengthening subject-specific competencies.

Second, the curriculum domain was scrutinized in terms of the internalization of curriculum operation, the specialization of career and vocational education, and the internalization of integrated education. Special education teachers identified the enhancement of school-centered curriculum operation as the most crucial and urgent task for curriculum internalization (Lombardi et al., 2022; Mazzotti et al., 2016). They emphasized the challenge of applying a national-level curriculum directly to students with disabilities, advocating for the development of a school-specific curriculum tailored to the unique circumstances of each school and the individual needs of students. The process of curriculum development was noted as necessitating inputs from a wide range of stakeholders, rather than a select few. Additionally, the participation of external experts in planning a school-level curriculum reflective of regional characteristics was considered beneficial. The emphasis was on creating a practical, applicable, and operational school-centered curriculum, with an increased scope for school discretion.

Regarding the specialization of career and vocational education, linking students with disabilities to career,

vocational education, and employment was deemed essential for improving the quality of special education (Mazzotti et al., 2016; Sitlington & Clark, 2006). The Ministry of Education currently implements policies such as integrated vocational education base schools, special schools, and school companies. To ensure the systematic operation of these policies, a unified approach involving the Ministry of Education, Ministry of Employment and Labor, and Ministry of Health and Welfare was suggested, promoting related projects under a coordinated, one-stop system.

Furthermore, for the internalization of inclusive education, strengthening social skills training for students with disabilities was seen as paramount. The difficulty students with disabilities face in social integration due to inadequate social skills was acknowledged. The development of social skills and the reduction of problem behaviors were identified as foundational for facilitating smooth interpersonal relationships. Alongside social skills training, the necessity to address and mitigate problem behaviors in students with disabilities was highlighted.

Third, regarding the expansion of special education conditions within schools, the most critical and urgent factor identified was the appropriate student-to-teacher ratio. There is a pressing need for the government to continue expanding the number of special schools and classes, along with increasing the allocation of special education teachers. This expansion is imperative to ensure the educational rights of students eligible for special education. Enhancing the quality of education requires an increase in the number of teachers per class, which would consequently reduce student numbers in each class. This measure is crucial for providing high-quality, individualized education. The emphasis on teacher-student ratios reflects the broader goal of catering effectively to the unique educational needs of each student within the special education framework.

Fourth, the external domain of special education was analyzed with a focus on enhancing the special education support system and fostering collaboration with related institutions (Rivera, McMahon, & Keys, 2014). Special education teachers identified the reduction of administrative workload as the most pressing and immediate need in strengthening the special education support system. A significant demand from these educators was for a decrease in administrative tasks to allow more time for adequate class preparation, despite recognizing the importance of policy and legislative revisions. They highlighted the burdens associated with organizing activities such as field trips for students with disabilities, which include tasks like location scouting, reservation making, and conducting preliminary visits, underscoring the necessity for increased manpower in these areas. Regarding collaboration with external institutions, establishing strong partnerships with relevant service support organizations was deemed the most urgent task (Povenmire-Kirk, Crimp, Dieglemann, & Schnorr, 2015). Special education teachers emphasized the need to enhance the quality of services provided directly to students with disabilities within school settings (Steere, Rose & Cavaiuolo, 2007). Challenges were noted in accessing immediate, necessary treatment support at schools, distinct from external treatment services. This highlighted a perceived need for a system that facilitates the integration of external treatment experts into the school environment.

In summary, the study underscores the paramount importance of enhancing the expertise of special education teachers through robust training programs. Such programs should be practical and specific, tailored to the teachers' assigned subjects and the distinct needs of their students, with a focus on accessible online and on-site training options. Additionally, the internalization of curriculum operation, specialization in career and vocational education, and the integration of inclusive education emerge as critical areas. There is a recognized necessity for developing school-centered curricula that reflect the unique requirements and characteristics of students with disabilities. The involvement of diverse stakeholders and external experts in curriculum planning is proposed to ensure regional relevance and practical applicability. Furthermore, addressing the student-to-teacher ratio is identified as an urgent need in expanding special education conditions. This encompasses increasing the number of special schools and classes, as well as improving the allocation of special education teachers, with the ultimate goal of facilitating quality individualized education. Lastly, fortifying the special education support system and enhancing collaboration with relevant institutions are deemed essential. Priorities include reducing administrative burdens for teachers, increasing manpower for organizing activities such as field trips, and fostering cooperation with service support organizations. The facilitation of external treatment experts to work within school settings is also considered crucial to improve the provision of direct services to students with disabilities.

For future research endeavors, it is imperative to explore the long-term impacts of enhanced teacher training programs on the overall quality of special education. This exploration should include a thorough evaluation of both online and on-site training modalities, focusing on their effectiveness in augmenting teachers' competencies to address the varied needs of diverse student populations. Additionally, there is a need to examine the outcomes associated with the implementation of school-centered curriculums specifically tailored to students with disabilities.

Such research should aim to assess the efficacy of these curriculums in fulfilling the educational requirements of these students, and the extent to which the involvement of various stakeholders and experts contributes to the curriculum's quality, relevance, and practicality. Furthermore, investigating the impact of specialized career and vocational education programs on the employment outcomes for students with disabilities is essential. This line of inquiry should delve into the integration of these students into the workforce and evaluate the current policies and practices in facilitating this integration. The research should also consider the long-term employment trajectories of these students and the role of specialized education in enhancing their job readiness and career prospects.

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