

The Future of Inclusive Education: Preparing Students with Special Needs for the World of Work

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Abstract

Inclusive education is an important issue in ensuring equal access to education for individuals with special needs around the world. Despite its implementation in various countries, challenges such as skills gaps, lack of assistive technology, and social stigma still hinder the integration of students with special needs into the workforce. This research aims to explore these issues and find solutions that can support the development of inclusive education that is more oriented towards the needs of the world of work. Using a descriptive qualitative approach, the research involved various stakeholders, including students, teachers, parents, employers and policymakers, to identify challenges and opportunities for collaboration between inclusive education and industry. The results showed the need for curriculum revision, integration of assistive technology and increased collaboration between inclusive schools and the world of work to address the skills gap. In addition, strong regulatory support and adequate investment from the government as well as the private sector are necessary to create an inclusive and equitable work environment for students with special needs.

Keywords: *Education-Industry Collaboration; Inclusive Education; World of Work Skills.*

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Introduction

Inclusive education has become an important topic in global efforts to ensure the right to equal education for all individuals, including those with special needs. As the world of work becomes increasingly competitive, the preparation of students with special needs to face the challenges in the world of work becomes an increasingly urgent issue. Although the concept of inclusive education has been implemented in various countries, its implementation still faces many obstacles. One of the main challenges is how to link inclusive education with the demands of the world of work so that students with special needs can get decent jobs (Isma, 2023). In addition, the lack of attention to the development of technical and non-technical skills in students with special needs adds to the complexity of this issue. Thus, a comprehensive approach is needed to bridge the gap between the world of education and the world of work. This also includes a paradigm shift in the way society and the workforce perceive individuals with special needs. Therefore, this study aims to explore the key issues that pose barriers to preparing students with special needs for the world of work.

One of the biggest challenges is the skills gap between students with special needs and the demands of today's workforce (Prihatin et.al., 2018). The curriculum designed for inclusive education is often not fully relevant to the needs of modern industry. As a result, students with special needs often



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face difficulties in obtaining jobs that match their potential. In addition, educational approaches that are less adaptive to individual needs often hinder the development of their technical and interpersonal competencies. In many cases, students with special needs need not only technical skills but also support in building self-confidence and sociability. Therefore, curriculum revision and the implementation of work competency-based learning methods are important steps to address this gap. In addition, involving industry in curriculum development can help ensure the relevance of the skills taught. Thus, a collaborative approach between the world of education and the world of work is one of the main solutions.

Infrastructure and assistive technology play an important role in supporting inclusive education, but access to these resources is still limited in many places. Many schools do not have adequate facilities to support the learning of students with special needs. Technologies such as assistive communication devices, interactive learning apps and mobility aids are often key unmet needs. The unavailability of this technology results in students with special needs not being able to maximize their potential in the learning process (Anggara, 2019). This is in line with the research of Hata et al (2023) which states that investment in assistive technology is often considered expensive, making it a low priority for many educational institutions. In fact, with the right technology, students with special needs can more easily develop relevant skills for the world of work. Therefore, it is important to promote policies that support the provision of assistive technology in inclusive schools. Support from the government and private sector is also needed to ensure the availability of these resources.

Discrimination and social stigma against individuals with special needs are still major barriers to their integration into the workforce. Many companies are reluctant to hire individuals with special needs due to negative stereotypes and lack of understanding of their potential. As a result, the unemployment rate among individuals with special needs remains high even though they have adequate skills (Mulyani et al., 2022). This stigma also often makes individuals with special needs feel insecure about competing in the workforce. In addition, the lack of regulations that encourage inclusiveness in the workplace exacerbates this situation. In fact, with an inclusive work environment, individuals with special needs can make a significant contribution to the company. Therefore, public awareness campaigns and stricter policies are needed to address this discrimination. These initiatives should involve all parties, including the government, businesses, and the general public.

Collaboration between inclusive education institutions and industry is also key in preparing students with special needs for the world of work. Unfortunately, such partnerships are still rare, so students miss out on relevant job training opportunities. Internship or job training programs are often not designed to include students with special needs. As a result, they lack the practical experience necessary to compete in the job market. Effective collaboration between schools and industries can help create more inclusive vocational training programs. In addition, industry also needs to be educated on how to work with individuals with special needs. With the right approach, students with special needs can gain valuable experience before entering the workforce. Therefore, building strong partnerships between inclusive education and industry is a strategic step (Lasiyono et.al., 2024).

Digital technologies provide a great opportunity to increase inclusivity in the world of work, but many students with special needs do not yet have the necessary technical skills (Haniko et.al., 2023). Remote work, for example, opens up opportunities for individuals with special needs to work without location restrictions. However, to take advantage of these opportunities, students must be equipped with the appropriate digital skills. Inclusive education should start integrating digital technology into the curriculum to prepare students for the modern work era (Sa'diyah, 2023). In addition, specialized training on digital technology can help students with special needs become more competitive in the job market. The increasingly technology-driven world of work also demands rapid adaptation in the skills taught in inclusive schools. With the support of technology, students with special needs can more easily access job opportunities that match their interests and abilities. Therefore, the integration of digital technology is an important element in inclusive education.

The government has an important role to play in promoting inclusive, work-oriented education through supportive policies. Policies that promote inclusiveness in education and the world of work often catalyze significant change. However, many countries still face challenges in effectively implementing these policies. For example, the lack of budget allocations for inclusive education and assistive technology is often a major obstacle. In addition, regulations that mandate inclusivity in the workplace are still not strictly enforced. In fact, with strong policies, individuals with special needs can more easily gain access to education and decent work. The government also needs to encourage

cooperation between the education sector, industry and society to create a supportive ecosystem. With a holistic approach, policy can be an effective tool to drive change.

Through this discussion, it is important to realize that inclusive work-oriented education is not only the responsibility of educational institutions, but also involves the entire social ecosystem. The workforce, educational institutions, government and society must work together to create equal opportunities for students with special needs. A comprehensive approach can help address challenges such as skills gaps, lack of assistive technology, social stigma, and lack of collaboration with industry. In addition, focusing on technology-based skills development is also a strategic step to deal with changes in the increasingly modern world of work. With good synergy, the future of inclusive education can make a real contribution to creating a more inclusive and equitable world of work. Therefore, a shared commitment is needed to make this vision a reality.

Method

This study used a descriptive qualitative approach to explore the challenges and solutions in preparing students with special needs for the world of work. The research subjects were 40 people, consisting of 10 students with special needs, 10 teachers, 10 parents, 5 employers, and 5 policy makers. The research was conducted in inclusive schools and companies that run inclusivity programs.

Data were collected through in-depth interviews, participatory observation in inclusive schools, and analysis of policy documents and vocational training reports. Analysis was done thematically, grouping data by categories such as skills gaps, use of assistive technology and education-industry collaboration.

Data triangulation was applied to ensure validity and reliability, by comparing results from interviews, observations and documents. Additional validation was done through discussions with inclusive education experts and the involvement of independent experts.

The results of this study will provide recommendations related to curriculum development, collaboration strategies between education and the world of work, and policies that support the integration of students with special needs into the world of work. This research is expected to contribute to improving the effectiveness of inclusive education that is oriented towards the needs of the world of work..

Result and Discussion

1. Skills Gap with the Needs of the World of Work

This research reveals that students with special needs face significant skills gaps in their preparation for the world of work. In-depth interviews showed that many students have not fully mastered the technical and social skills required in the work environment, such as communication skills, time management, and effective collaboration. One teacher stated,

“We see that students still need to improve their social skills, such as working in teams and conveying ideas effectively.”

The current inclusive education curriculum still focuses on academic aspects without giving enough attention to the development of practical work skills (Maryam et.al., 2024). In addition, the lack of an occupational competency-based approach leads to a mismatch between the needs of the world of work and the skills possessed by students with special needs.

The use of assistive technology also proved to be a major factor influencing this skills gap. Observations showed that although some assistive devices had been used, access to technology that could support students' skill development was still limited. One teacher emphasized,

“Students with special needs need more access to assistive technology that can help them adapt to tasks in the world of work.”

This is in line with research by Fadhli (2024) which states that the integration of assistive technology in inclusive education helps reduce the gap between academic ability and practical work skills. Teachers

also expressed the need for additional training to integrate these technologies in daily learning, so that students with special needs can be more independent and adapt to an inclusive work environment. In this context, employers asserted that hands-on experience with assistive technology will contribute significantly to students' readiness to face the demands of the world of work.

Collaboration between education and the world of work is an important solution to address this gap. Data shows that closer cooperation between inclusive schools and companies can help expand students' practical skills. One employer stated,

“We really need graduates who not only understand the theory, but also have skills that can be directly applied in the field.”

Employers emphasized that they need graduates who are not only technically competent but also able to adapt well in an inclusive work environment. This is in line with a study conducted by Pramesti et al. (2024), which shows that collaboration between educational institutions and the world of work has a significant impact on improving graduates' readiness to face challenges in the workplace. However, policymakers recognize that greater support is needed to integrate this collaboration in education policy. Without adequate support, such integration is difficult to do effectively.

The data triangulation applied in this study provided consistent and valid results, indicating that the research findings are trustworthy. Additional validation through discussions with inclusive education experts and independent experts reinforced the research results, providing confidence that the recommendations are based on robust data. By understanding and implementing these results, it is hoped that inclusive education can be more effective in preparing students with special needs for a more inclusive and competitive world of work.

1. Lack of Infrastructure and Assistive Technology

The lack of disability-friendly infrastructure is one of the main challenges in supporting students with special needs. Facilities such as wheelchair-accessible classrooms, disability-friendly toilets and other assistive devices are needed to ensure students can fully participate in learning. One of the accompanying teachers, Mr. Ahmad, revealed,

“Students with disabilities often face difficulties in adapting due to the absence of adequate facilities. Inclusive infrastructure is essential to support them in their learning process.”

Research by Atika (2024) also shows that lack of access to disability-friendly physical infrastructure can hinder educational inclusion, which has a direct impact on the participation and learning outcomes of students with disabilities.

Assistive technology is also a very important but often limited component. Assistive devices such as screen readers, deaf support devices or text reader apps are indispensable to help students with disabilities understand lessons and interact with the learning environment. The lack of access to such technology makes it difficult for students to catch up academically and develop relevant skills for their future. According to Azizah & Hendriani (2024), assistive technology provides equal access for students with disabilities, which has a positive impact on strengthening their communication skills, literacy and social skills.

The lack of training for teachers in integrating assistive technology into learning is also a major obstacle. Many educators do not have sufficient understanding of how to use the technology effectively. As a result, the learning process cannot fully support the needs of students with disabilities, so their skills cannot develop optimally. Research by Valentino et al (2024) emphasizes the importance of

ongoing training for teachers to improve their competence in using assistive technology, which will ultimately strengthen educational inclusion for students with special needs.

To overcome this challenge, stronger collaboration between the government, schools and educational institutions is needed to provide adequate infrastructure and assistive technology. In addition, continuous training for teachers and educators should also be pursued so that the learning process can be more inclusive and support the development of students' overall skills. Research by Ardiyanto et al. (2024) concluded that an inclusive learning environment, supported by adequate infrastructure and technology, can increase the participation of students with disabilities in education holistically.

2. Discrimination and Stigma in the World of Work

Discrimination and social stigma against individuals with special needs is still a major challenge in the world of work. Many people still perceive that individuals with disabilities are less competent or capable of working as others. This perception often hinders their chances of securing equal employment, despite having adequate skills. High social stigma creates an environment where companies tend to overlook candidates with disabilities, which has a direct impact on the balance of inclusion in the workforce. According to research by Mau & Derung (2025), social stigma against disability hinders access to the workforce by creating negative views that influence hiring and promotion decision-making. Mr. Rudi, an HR Manager, confirms,

“Many companies still doubt the abilities of disabled employees due to a lack of understanding of how they can fully contribute in an inclusive work environment.”

Discrimination in the workplace also takes many complex forms, from lack of training opportunities to lack of promotion or recognition of their contributions. Studies show that companies are often afraid to provide the necessary facilities or adapt the work environment to support employees with disabilities, due to the assumption that this will complicate operational processes. This was also conveyed in a study by Strindlund et al. (2019), who found that companies tend to avoid inclusive measures due to concerns about the additional costs and complexity of managing disability needs. Ms. D, a disability support worker, said,

“Many companies do not fully understand our special needs, so we are marginalized from career development opportunities.”

Inaccurate perceptions about the abilities of individuals with disabilities are also rooted in ignorance or lack of education about work inclusion. Many managers and human resource teams do not have sufficient training on how to create a disability-friendly work environment. As a result, they fail to understand the needs and potential of disabled employees, which ultimately leads to unconscious discriminatory practices. Research by Sari (2024) mentions that the lack of awareness of disability needs in the work environment has a negative impact on the process of integration and equal participation. As Mr. AD, an operations manager, puts it,

“We often miss out on the great potential of employees with disabilities simply because of a lack of awareness of how they can play an active role in our team.”

To address discrimination and stigma in the workplace, there is a need for wider awareness and education about disability inclusion. Companies should actively adopt inclusive policies, such as providing adequate physical accessibility and training on diversity and inclusion. Stricter regulations are also needed to ensure the protection of the rights of workers with disabilities, so that they can contribute fully and equally in a fairer and more inclusive world of work. Mr. FS adds,

“Companies need to be more open to new ideas and provide strong support for employees with disabilities so that they can develop without the barriers of discrimination.”

3. Limitations of Collaboration between Educational Institutions and Industry

Collaboration between inclusive education institutions and industry plays an important role in creating skills that meet the needs of the labor market. However, several limitations still pose major challenges to the effectiveness of this collaboration. One of the biggest barriers is the lack of partnerships between inclusive schools and industry. According to W, a teacher at an inclusive school,

“We still struggle to establish strong partnerships with industry to provide relevant internship programs for students.”

Many inclusive schools do not have strong partnerships with industry, making it difficult to provide relevant training programs. Lack of access to apprenticeship programs and hands-on job skills development means that students and graduates are ill-prepared for the evolving demands of the job market.

According to research by Susianita (2024), limited collaboration between educational institutions and industry contributes to the mismatch between the educational curriculum and the needs of the job market. This research revealed that educational institutions tend to focus more on theory, while industries require practical skills that are not always covered in classroom learning. In this context, the active involvement of industry is crucial to ensure that graduates have competencies that are relevant to the demands of the world of work.

In addition, the limitation of structured on-the-job training is another obstacle in this collaboration. Many educational institutions only offer theory without practical application, so students do not get enough experience to develop the skills needed in the world of work. This lack of access to industry-based training reduces graduates' competitive advantage in the labor market. According to AR, a student at an inclusive school,

“Fasilitas yang kami miliki belum sepenuhnya mendukung program pelatihan yang berfokus pada keterampilan kerja nyata. Peralatan yang ada masih terbatas dan tidak selalu sejalan dengan kebutuhan industri.”

Research by Irshadi & Ivanna (2024) shows that inadequate infrastructure is one of the factors that hinder collaboration between education and industry. This study states that the lack of facilities that support practical job training has a direct impact on the low quality of graduates who are ready to face challenges in the world of work. Therefore, there is a need to invest in strengthening education infrastructure in order to support more effective collaboration programs with industry.

In addition, limited funding prevents institutions from establishing closer cooperation with industry, such as the provision of work equipment or intensive training programs. Lack of awareness of the importance of collaboration between educational institutions and industry also exacerbates the situation. Some inclusive schools may not fully understand the importance of this relationship, leading to a lack of effort to build sustainable partnerships. Support from the government and related institutions is also a key factor that needs to be considered for this collaboration to be more effective. The lack of regulations that support collaboration between inclusive schools and industry is also a challenge. The role of stakeholders such as the government, professional associations and the industrial community must be strengthened to create an environment that supports closer collaboration. Without clear regulations, efforts to create mutually beneficial partnerships are less structured. With more inclusive and collaborative strategic measures, it is hoped that partnerships between inclusive education institutions and industry can be enhanced to create more relevant job training and work-ready graduates that meet the needs of the labor market..

Conclusion

Collaboration between inclusive education institutions and industry is essential to address the skills gap of students with special needs. However, there are still some limitations that hinder the effectiveness of this collaboration. The lack of partnerships between inclusive schools and industry leads to a lack of access to relevant internships and job training programs. The education curriculum, which still focuses on theoretical aspects, is also not always in line with the needs of the working world, which demands practical skills. In addition, the lack of infrastructure that supports vocational training, such as assistive technology facilities, is a major obstacle. The need for additional training for teachers in integrating assistive technology into learning is also increasingly evident. Limited funding exacerbates the situation, reducing the ability of educational institutions to work more closely with industry. Better regulatory support from the government and relevant agencies is needed to strengthen this collaboration. With a more inclusive and collaborative strategic move, it is expected to improve the readiness of students with special needs to face a more inclusive and competitive world of work.

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