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# Challenges in engaging students with learning disabilities in food industry

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**ABSTRACT**

Students with learning disabilities (SLD) with potential for independent living and economic contribution can thrive by participating in technical and vocational programs tailored to the food industry. To ensure that SLDs do not lag behind a thorough comprehension of the challenges they confront is imperative for all stakeholders, including parents, instructors, and the government. Thus, the study investigated the challenges of engaging in vocational education for SLD. This study utilized systematic literature review (SLR) methodology, which synthesizes research findings to generate new insights and understandings. This study identified six challenges that students with learning disabilities must overcome before entering the workforce. The challenges are i) employment difficulties; ii) lack of resilience; iii) mismatch between special educational institution and industry needs; iv) curriculum deficiency for students with learning disabilities; v) lack of parental involvement and employer support; and vi) insufficient understanding of job descriptions in the food industry. Findings from this study provide valuable insights into the challenges faced by SLDs seeking to be part of the food industry. This knowledge can facilitate further research to develop job profiles that align with their unique abilities, ultimately fostering their success in careers and enriching their lives.



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## 1. INTRODUCTION

Technical vocational education and training (TVET) is an educational process that emphasizes industry practices in a variety of disciplines and is employment-focused. TVET also includes societal skill developments that influence the TVET discipline in a country [1]. Makhbul and Latif [2] stated that the skilled workforce sector of the country has just reached 31%, whereas the government's goal is to achieve at least 35% by 2020. Nonetheless, a 4% disparity remains. Consequently, the development of highly qualified human resources via TVET became a top priority. TVET is regarded as one of the nation's most vital educational initiatives in order to produce highly qualified human resources in accordance with industry 4.0 requirements. To meet the challenges of 4IR, the government has made plans and actions to help graduates be equipped with the new skills required by the industry [3]. In accordance with this, TVET also plays a vital role in educating and training students with special needs, including those with learning disabilities. TVET provides practical, hands-on training in a variety of vocational fields, equipping students with the skills necessary to pursue employment opportunities suited to their abilities and disabilities [4].

The Malaysian Ministry of Education has provided early education options for students with special educational requirements. Special education programs have been implemented at all educational levels,

including preschool, primary, secondary, and post-secondary. The primary purpose and function of vocational education for students with special needs is to equip them with the skills required to obtain employment and live independently [5]. Thus, students with special needs can acquire and develop the skills necessary to surmount life's obstacles and become productive members of society [6]. Moreover, vocational education is the foundational training for employment that corresponds to their deficiencies [7], [8]. The curriculum for vocational education for students with special needs must be more adaptable, focused, engaging, and compatible with the skills and abilities of students with special needs [9].

The Special Education Division (SED) provides inclusive students with TVET education in order for them to keep up with national modernization and contribute to national development [10]. Special Education Division 2023 categorizes students in special education institutions into six categories: visually impaired, hearing impaired, communication impaired, learning impaired, physically impaired, and other disabilities. Students with learning disabilities (SLDs) are able to live independently and contribute equally to the economy [11]. In the workforce, students with learning disabilities encounter fewer communication and facility issues than students with other abilities. Students with visual impairments, for instance, require a handrail or lift to facilitate movement between locations [12]. Those with SLD do not require physical accommodations because they can walk normally. Therefore, the culinary service is not required to provide physical accommodations for people with SLDs.

Eleven skill areas have been identified by Sharma and Sharma [13] as needing to be prioritized for students with learning difficulties. These include carpentry, handicraft, agriculture, sewing, laundry, automotive, housekeeping, hospitality, photocopying, entrepreneurship, and beauty treatments. According to a separate report from the Department of Skill Development [14], there are six critical employment sectors that require skilled and moderately skilled workers. The most important positions are chef, restaurant manager, cook, baker, pastry chef, and waiter. Aligned with this, the shortage of skilled and moderately skilled employees in this field is highlighted [15]. Thus, the initiatives of the SED provided their students with courses in food and beverage preparation, whereby students who are capable and have completed secondary education can earn a special education school level 2 certificate in food and beverage preparation.

In collaboration with the business sector, TVET education plays a significant role in producing competent personnel resources for the nation, as well as for students with learning difficulties in special education institutions [16]. Therefore, the goal of this paper is to identify the obstacles and challenges that come with researching the acceptability and suitability of specific job profiles for students with learning disabilities in the food and beverage service business. Every individual possesses a personal potential that can be developed through formal or informal education; consequently, educational institutions must comprehend the significance of the job profile to produce competent students despite a lack of self.

## 2. THE IMPORTANCE OF ENGAGEMENT AMONG STUDENTS WITH LEARNING DISABILITIES IN FOOD INDUSTRY

As stated by SED, the Ministry of Education (MoE) offers four schools that assist students with cognitive disabilities in obtaining a Malaysian Skill Certificate level 2 in a specific vocational discipline. There are Sekolah Menengah Pendidikan Khas Vokasional (SMPKV) Kuantan, SMPKV Shah Alam, SMPKV Merbok, and SMPKV Indahpura. Each of these institutions has offered courses in food and beverage management since 2008. The DSD reported that the food and beverage service industry is experiencing a severe labor shortage; therefore, this opportunity can assist students with learning disabilities in obtaining employment in this industry [17]. A study conducted by Jin *et al*. [18] reported that 13 individual employers were pleased with their work, while only two reported the opposite. There were 13 contest the notion that disabled employees are less productive.

In 13 organizations in the United States that employ individuals with autism spectrum disorder (ASD), employers identified a number of benefits associated with hiring individuals with cognitive disabilities, such as unique skills and broader workplace benefits [19]. Due to the nature of the symptom, the employer accentuates the ASD-related preference for routine and repetition. The consistency and precision with which the task was completed also impressed the employer. The employer was also pleased with the conclusion that the ASD can consistently perform a laborious task. Each dish and menu must be uniform and consistent in terms of garnishing, portion size, and portion size when plating or garnishing food for a banquet. Some quick-service restaurants have employed individuals with learning disabilities in the interim [20]. Customers reacted favorably to the fast-food restaurant's decision to engage individuals with learning disabilities, given the restaurant's positive reputation for assisting students with disabilities in finding employment [21]. However, Ministry of Women, Family, and Community Development (MWFCD) research revealed that 50% of disabled employees quit their employment within six months. The analysis of the act and organizational culture demonstrates that Malaysian employers continue to lack faith in the abilities of the

disabled [22]. Employers have a tendency to impose the same conditions on disabled and normal employees, despite the fact that the abilities of disabled and normal individuals differ [23], [24].

These instances demonstrate that the majority of Malaysian working and social environments still do not welcome students with learning disabilities. Clearly, the gaps have been a burden for those with learning disabilities in Malaysia. This topic must be investigated in depth in order to reduce the difficulties faced by those with learning disabilities.

## 3. RESEARCH METHOD

The methodology of this investigation was a systematic literature review (SLR). Using the SLR methodology, research on the workplace participation of students with cognitive disabilities was systematically reviewed and synthesized. The SLR facilitates information analysis by mandating specific and methodical inquiry and review techniques. It entails formulating the research question, locating relevant studies, extracting data, synthesizing findings, and interpreting results in order to develop new insights or theoretical frameworks [25]. Specifically, the methodology of systematic reviews adheres to Shaffril *et al*. recommendations [26]. ROSES aims to enhance and sustain an effective SLR creation process by increasing review transparency and assuring and managing review quality.

Using the flowchart of suggested reporting items for systematic reviews [27], this study identified germane publications. Therefore, this SLR study analyzed the search strategy, selection criteria, selection procedure, data acquisition, and data analysis for the collected articles. For data compilation, Scopus, Web of Science, and Google Scholar were utilized. The data were screened using job profiles, cognitive disabilities, and food and beverage services. The inclusion criteria for this research included publications published between 2019 and 2023. Articles are required to be published in English.

### 3.1. Articles search strategy

The SLR searched Scopus, Web of Science, and Google Scholar. Joklitschke *et al*. [28] suggest article searching is most important with keywords. This study used three keywords. “Job profile” and “Job description” were the first keywords. The second batch keywords were “Learning disabilities challenges” and “Learners disabilities barriers”. The last set's theme was “Food and beverage industry” and “Restaurant services”. Article searches used Boolean AND, OR, and three keyword sets. Using keywords, the database found articles about the challenges disabled learners experience in meeting industry standards and being accepted by the industry.

### 3.2. Articles criteria selection

Xiao and Watson [29] provide a clear and comprehensive article selection technique for survey research that compares a multitude of literature sources. This study provided parameters to help in literature searches. Table 1 shows the four journal article selection criteria: Year of publication, language, references, and topic field. Only articles published between 2019 and 2023 were considered. The last five years can be used to seek new topics that need greater debate, such as current events. Second, our study included only English-language publications from three popular databases. Third, this study exclusively employed journal papers as reference material. Journal papers are thorough and detailed reference materials. Since learning disabilities (LD) students represent the majority in special education, this study exclusively accepted publications on job profiles for LD students in the industry.

Table 1. Critical article acceptance and rejection

| Criterion | Acceptance | Rejection |
|---|---|---|
| Publication year | Publication of journal articles within the last five years (2019 to 2023) | Publication before 2019 |
| Language | English | Chinese, Malay, and other languages |
| Article access | Open access | Non-open access |
| Types of reference materials | Journal article | Conference proceedings, papers, theses, and books |
| Journal article research field | The field of job profiles among learners’ disabilities in food and beverage industry context | Any other food and beverage business fields for disabled learners. |

### 3.3. Articles selection process

Figure 1 depicts the four article selection processes for this investigation. As mentioned previously, the stages for article search and article selection have culminated in article identification. There were 1496 articles identified by three databases. Before entering the eligibility phase for a more in-depth evaluation, the articles were screened using the acceptance criteria presented in Table 1. There were four additional

eligibility criteria used to exclude articles from the SLR study. Articles without complete text (n=17), research titles that did not fit the context of the study (n=7), duplicate articles from the two databases (n=5), and review articles that did not satisfy the study's criteria (n=7) were excluded. However, four additional acceptance criteria included full-text articles, titles that fit the study's context, the absence of duplicates, and empirical data and non-review articles that satisfy the study's acceptance criteria. We were only able to utilize 9 of the 45 journal articles we downloaded. Nine papers were chosen for the SLR.

### 3.4. Data extraction

Scopus, Web of Science, and Google Scholar provided nine journal articles for data gathering. All selected articles fulfilled the acceptance and rejection criteria. Each article's title, author(s), year, study purpose, students with learning disabilities, and industry player challenges to accommodate learners' disabilities in food and beverage operations were abstracted.

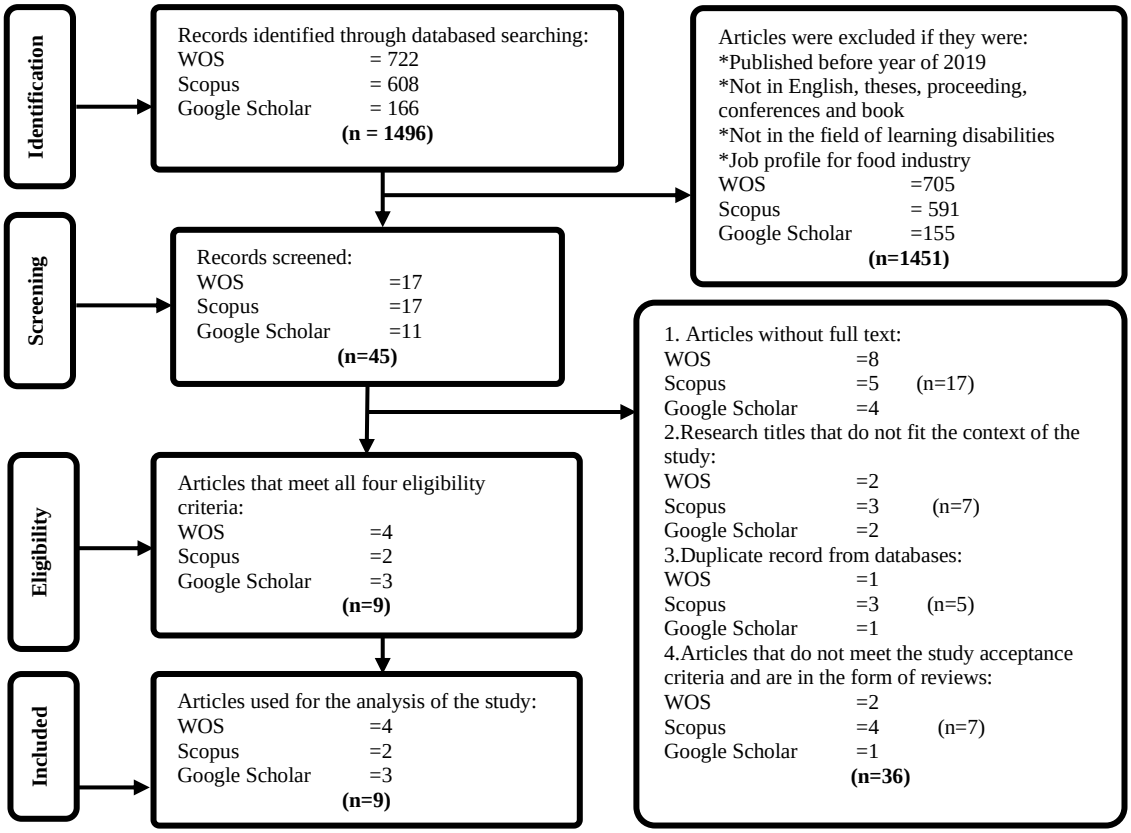


Figure 1. Diagram of the article selection procedure

## 4. RESULTS AND DISCUSSION

The SLR found these engagement problems for students with learning disabilities in the food and beverage service industry as shown in Figure 2. Students with learning disabilities are less likely to receive job offers that align with their qualifications and the industry's requirements. According to a study [30], some students with special needs do not master skills like communication, problem-solving, behavioral skills, group work, academic fundamentals, interpersonal, computer, time management, self-management, lack of confidence, instruction adherence, personality management, and social integration [31], [32].

### 4.1. Challenge 1: difficulties of employment

The study's findings were supported by the Ministry of Higher Education's TVET Graduate Tracking Study Report 2020, which found that just 429 disabled graduates out of a total of 78,655 TVET graduates were able to find work. Only seven SLD TVET graduates have graduated from SMPKV. From the survey, the top five reasons for graduates not receiving job offers are that they are still looking for employment (47.5%), that they have health difficulties (19.7%), that they lack self-confidence to work

(8.2%), that they have family responsibilities (6.6%), and that they have communication issues/general skills (4.8%). Students with disabilities are denied career possibilities after graduation due to negative employer opinions and parents' unwillingness to enable their special-needs children to work [33]. As a result, this circumstance contradicts the government's purpose of establishing a highly competent society and improving the quality of its residents.

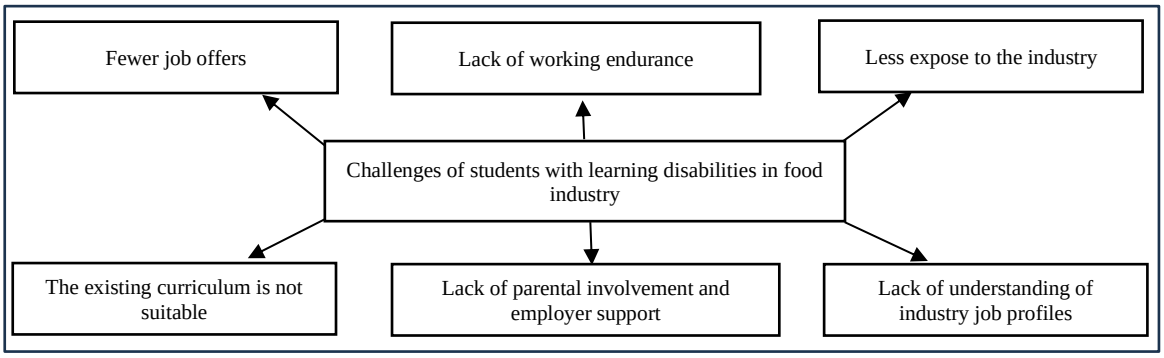


Figure 2. Challenges of students with learning disabilities in food industry

### 4.2. Challenge 2: lack of resilience

According to the findings of a MWFCD study, 50% of impaired employees quit their occupations within six months. Research on the act and organizational culture in Malaysia shows employers continue to have doubts about the ability of people with disabilities [34]. Furthermore, findings by Norhayati *et al*. [35] signify work routines and work settings that limit persons with disabilities' capacity to execute work activities have a role in employers' inability to hire them. People with disabilities struggle to work effectively due to inadequate workplace facilities and equipment. In other words, the breadth and variety of available employment do not match the capacities of the impaired.

This is similar to Ineland and Starke [36], who identified disability as one of SLD most important employment impediments. This case demonstrates that employers' stigmatization of students with learning disabilities adds to their increasing marginalization and social isolation [37]. This can also happen when there is a mismatch between the job description and the student's ability to complete the assignment. Because it is difficult for students with cognitive disabilities to establish themselves in the workforce, this scenario has a negative impact on their survival. Hillier *et al*. stated that employers and parents must also help students with learning difficulties stay on the job for a longer period of time [38].

In addition, inadequate mastery of employability skills is one of the barriers to employment for people with special needs [31], [33], [39], [40]. According to previous studies [3], [41], educators must implement employability skills as preparation for students with special educational requirements to potentially enter the workforce. This is due to the fact that this skill is a requirement for employment by many companies. It is crucial that every student with learning difficulties is able to acquire the necessary skills to increase their employability in the industry.

### 4.3. Challenge 3: mismatch between special educational institution and industry needs

Individuals with special needs who are entering the workforce require guidance [42]. Consequently, there is a program for career transition at school. The Malaysian education system regarding career transition programmers is unclear [43]. The problem of students' mastery of fundamental skills such as reading, writing, and arithmetic is at a low level. In addition, Yusof *et al*. [4] discovered the application of a new element of fundamental skills, namely the skill of remembering, which was not found in the findings of previous studies. This demonstrates that educators believe students with special educational needs require memory skills as preparation for the workplace. [44]

In a survey by Ginevra *et al*. [45], the vast majority of respondents (94.4%) reported that obtaining teaching and learning resources for special education is extremely difficult. While the majority of respondents (83.3%) experienced a lack of instructional resources to employ in the teaching and learning process, the majority of respondents (83.3%) did not. As a result, roughly 61.1% of respondents said they could not use instructional materials to implement the induction set phase. Furthermore, Alvanoudi *et al*. [46] found that there are fewer special education teachers who have worked in the industry and understand the work environment, making it easier to comprehend the industry's norms and regulations and making the teaching and learning method more effective for students with learning difficulties.

Herrick *et al*. [47] studied vocational support for students with autism to date have focused on enhancing career transition through the development of skills appropriate for their symptoms. Students are less prepared to work in the industry as a result of a lack of exposure and preparation for the industry in school. Due to their lack, they are unprepared to tackle the challenges of the working world. As stated in previous study, the existing Career Transition Program is unclear, possibly because students are not exposed to the appropriate work environment, teachers lack industry experience, there are differences in facilities and equipment in the industry, and the norms of work in the industry are not practiced in school [48].

### 4.4. Challenge 4: deficiency in existing curriculum for students with learning disabilities

Existing curricula for learners' disabilities continue to emphasize academics and do not emphasize skills. The existing curriculum is unsuitable for learning disabilities students because it is a curriculum designed for normal students whose level has been lowered and does not take into account the abilities and interests of students [13], [49]. Furthermore, the existing curriculum does not provide many opportunities for students with learning problems to choose skills that match their interests and abilities because it is only designed for normal students [50]. National Occupational Skills Standard (NOSS) is a curriculum provided by the Skills Department of Malaysia that contains content that has been organized and planned in phases and is suitable for special needs pupils (MBK) to comprehend. In this curriculum, MBK will learn six essential pastry-making components, for instance. The Occupational Safety and Health Act of 1994 (OSHA) will disclose to the students the ingredients and equipment used to produce a product. The students must be proficient in reading the recipe standard, the cooking process, packaging, evaluating the product's quality, and writing a report on the activities performed.

### 4.5. Challenge 5: lack of parental involvement and employer support

Students with learning disabilities face difficulties finding jobs due to a lack of family participation and employer support. As explained in previous studies [32], [51], poverty is caused by society's negative opinion of people with disabilities (PWD) and the restricted options for PWD to be integrated into employment groups. To build vocational skills, this demographic requires exposure as early as formal education. The aforementioned report on family involvement in school activities is consistent with the parental involvement research. The study found that parental involvement in the schooling of children with special needs is low, moderate, and insufficient [52]–[54]. Family involvement is critical in assisting special needs individuals to enter the labor sector, but it is not the only one. As a result, cognitively handicapped people require assistance in retaining their educational skills for the workplace.

Discrimination against people with disabilities leads to negative stereotypes and new job applications among handicapped people [55], and there are still employers who are dismissive of the disabled [45]. As a result, the majority of parents of students with cognitive problems refuse to let their children work because they lack trust in their employers. Parents of students with cognitive disabilities are anxious that businesses may take advantage of their children's deficiencies by underpaying them.

### 4.6. Challenge 6: insufficient knowledge of job descriptions in the food service industry

Higher education institutions are unaware of job profile requirements in the food and beverage service industry rules, which should be aligned with the symptoms of students with learning disabilities. A work profile, according to the Alexander Hamilton Institute [56], is a set of duties and responsibilities associated with the employment of a specific role. This work profile is strongly tied to an individual's ability to do the duties listed in the job profile within the scope and responsibilities. The food service sector is separated into front-of-the-house and back-of-the-house departments [57]. The personnel department that will constantly interact with consumers is the front counter department, whereas the back-of-house department will never deal with customers. As a result, there are several job options for students with learning difficulties. Furthermore, the Ministry of Human Resources identifies six critical occupations in the food and food preparation industry in the 2019 Employment Framework Review Report from the Skills Development Department [17]: chefs, restaurant managers, cooks' assistants, bakers, pastry assistants, and waitresses.

Therefore, if the job profile of students with learning disabilities can be divided into these two departments based on the suitability and ability of students to perform tasks, it is possible for students to be accepted by the industry. For instance, as you already know, autistic students have difficulty communicating, but they are able to perform repetitive tasks with care and attention to detail without becoming fatigued; therefore, this subtype of autism is ideally suited for training as a support staff member. However, there is a paucity of discussion regarding the suitability of the employment profile of students with learning disabilities. The issue of the appropriateness of the job profile based on ability and ability as well as interest in the job can be a significant factor in enabling students with learning disabilities to adapt to the industry's norms and job profiles, particularly in the food and beverage service industry [52]. As a result, the goal of

this paper is to identify the obstacles and challenges that come with researching the acceptability and suitability of specific job profiles for students with learning disabilities in the food and beverage service business.

## 5. CONCLUSION

The goal of this research was to provide an overview of TVET and the Special Education Division in order to comprehend the challenges that students with cognitive disabilities encounter when entering the profession. Following the identification of the impediments, it is vital to comprehend the work profile in connection to the aptitude and category of students with learning disabilities in order to optimize the students' potential and acquire acceptance in the business. Students with learning disabilities can be linked with industry standards by recommending the most effective learning strategies to the Special Education Division, which established the TVET learning strategy. Despite the fact that students with learning disabilities have some limitations, a fruitful collaboration between learning methodologies and the business sector can highlight the students' skills and abilities, consequently improving the students' quality of life. It is clear that implementing hands-on TVET plays an important role in educational reform for students with learning difficulties in developing individual potential in a more positive direction to satisfy the nation's ambitions. There is optimism that all instructors and industry as implementers can contribute energy, creativity, and commitment to assist students with learning disabilities in surviving and attaining the same quality of life as a typical person. Next, mainstream technical and vocational education can provide knowledge to a skilled and semi-skilled workforce to attain a high-income status for the nation and for individuals with disabilities. Based on the most crucial factors that have been identified in this study, it is important to have compatible working ability among students with learning disabilities to comply with the preferences that have been stated by industry, this will give high chances for learning disabilities to enter the workplace. In the future, there will be research on the acceptance of the food industry for learning disabilities workers.

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