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Content Validity of Job Characteristic Model for Graduates with Learning Disabilities in the Food Service Industry

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Abstract

Graduates with learning disabilities (LD) face distinct challenges and opportunities, especially in food service. The Job Characteristics Model (JCM) is used to assess LD graduates' work characteristics' content validity. Quantitative study was conducted with food service employers and vocational educators. JCM dimensions' compatibility with LD graduates' practical abilities and employment ability is the main goal. Experts were selected using purposive sampling. Six professionals verified content validation instruments for the study. An item-level content validity index (I-CVI) was utilised to determine expert's consensus qualities with the JCM construct. There were five JCM constructs suitable for (LD) grads and validated them with 1.00 I-CVI by a panel of experts. Accepted instruments with excellent content validity surpass > 0.80 take-off value. Two items were removed and 27 items fitted to the food service job profile and work scope. Acceptable and meaningful instrument findings were found. It provides a novel and relevant indication of (LD) graduates' workforce readiness. The data also show that JCM is a valuable paradigm, although some features need changes to properly assist LD graduates. To improve employment outcomes, the study recommends personalised job designs and support structures, such as increased training programmes and adjusted job responsibilities. These findings can help policymakers, vocational training programmes, and food service industry create more inclusive and supportive workplaces for people with learning disabilities.

1. Introduction

Recently, there has been a growing focus on Technical and Vocational Education and Training (TVET), highlighting its crucial role in equipping individuals with practical skills for the workforce (Che Mat & Omar, 2022; Lee et al., 2024). This strategy is based on the idea that TVET systems need to be proactive and engaging, adapting their training to benefit individuals, economies, and societies in a rapidly changing future. The knowledge, skills, and competencies required by young people and adults to succeed in the workforce will evolve quickly, affecting job-specific skills, foundational skills, transversal/soft skills, and the ability to adapt to change and participate in both local and global communities (Stefania Giannini, 2022). Approximately 15 percent of the global population, or about 1 billion people, live with some form of disability (Bull et al., 2020). Within this group, around 785 million individuals with disabilities (PWDs) represent a significant yet underutilized human resource (ILO, 2020). Despite

this, PWDs face substantial challenges in securing employment (Ang Chooi Hwa & Tien Hong, 2022). Individuals with learning disabilities (LD), also known as intellectual disabilities (ID), are among those who particularly benefit from TVET due to their specific needs and the substantial impact it can have on their lives (Littin & Haspel, 2020; Rast et al., 2020). Therefore, it is essential to evaluate TVET job profiles to ensure they address the unique needs of this group (Mee Kim et al., 2020).

The food service industry also included in TVET approach while focusing more on practical and hands-on blended learning, which a vital component of the global economy (Akyazi et al., 2020). However, ensuring these opportunities are accessible to all, including to individuals with learning disabilities, remains a significant challenge (Pua Shwu Tyng et al., 2020). Learning disabilities encompass a variety of neurological conditions that affect a person's ability, impacting their educational and occupational outcomes (Kreider et al., 2020). As the industry strives to embrace diversity and inclusivity, the accuracy and relevance of job profiles become increasingly important. Job profiles serve as a foundational tool in the recruitment and employment process, detailing the skills, knowledge, and abilities required for specific roles (Cimini et al., 2023) For graduates with learning disabilities, these profiles must not only reflect the core job requirements but also accommodate their unique needs and strengths (Maslina Mastam et al., 2024).

In the context of Technical Vocational Education and Training (TVET), the food service industry job profiles are often not tailored to the specific needs and abilities of students with learning disabilities (Kalsoom et al., 2020). This mismatch creates significant barriers to effective training and subsequent employment for these students. TVET programs aim to equip students with practical skills and knowledge for specific industries, yet the content validity of job profiles in the food service sector frequently falls short in addressing the unique requirements of students with learning disabilities (Chadwick et al., 2023). This study seeks to evaluate the current job profiles through a TVET lens, identifying gaps and inconsistencies that hinder the training and employment process. By assessing the alignment between job descriptions and the educational objectives of TVET programs, the research aims to propose targeted modifications that enhance inclusivity and accessibility (Norlaili et al., 2024). Moreover, ensuring appropriate alignment between technical skills and social skills in TVET job profiles for individuals with intellectual disabilities remains an issue that requires further research and thorough evaluation (Abdul Rahman et al., 2023). There is a significant gap in research on how TVET can be optimized to meet the needs of individuals with learning disabilities. Comprehensive content validation is needed to bridge this gap.

The transition from education to employment is a critical phase for all graduates, and it poses unique challenges for those with learning disabilities (Ibrahim et al., 2021). These individuals often face significant barriers in securing and maintaining employment, particularly in industries that demand a specific set of skills and adaptability, such as the food service industry. Understanding how to create conducive and supportive work environments for LD graduates is essential for improving their employment outcomes and ensuring their long-term job satisfaction and performance. Besides, TVET job profiles often do not place sufficient emphasis on interpersonal skills, such as communication and teamwork, which are critical for the integration and success of individuals with learning disabilities in the workplace (Anal et al., 2021; Ngware et al., 2022). Furthermore, TVET job descriptions generally do not provide priority to establish task identity, which comprises a clear knowledge of job tasks and outcomes (Muhammad Farhan et al., 2020; Rast et al., 2020). Due to this, people with intellectual disabilities may experience decreased motivation and work dissatisfaction as a result of this lack of concentration (Liu et al., 2022). The ultimate goal is to ensure that job profiles accurately reflect the competencies taught in TVET programs, thereby supporting the successful transition of students with learning disabilities into the food service workforce.

The Job Characteristics Model (JCM), developed by Hackman and Oldham in the 1970s, provides a robust theoretical framework for analyzing and designing jobs that enhance employee motivation, satisfaction, and performance. The model identifies five core job dimensions: skill variety, task identity, task significance, autonomy, and feedback. These dimensions are posited to influence critical psychological states, which in turn affect work outcomes (Smart et al., 2023). Given its comprehensive approach, the JCM has been widely applied across various industries to understand and improve job design. However, the application of the JCM to job roles occupied by LD graduates in the food service industry has not been extensively explored (Okeke et al., 2021). This gap is particularly significant given the unique needs and capabilities of LD individuals, which may necessitate adaptations to traditional job design principles. Evaluating the content validity of JCM dimensions for LD graduates in this context is crucial to determine whether these dimensions are relevant and sufficient, or if modifications are needed to better align with the practical realities faced by these employees.

This study aims to fill this gap by systematically investigating the content validity of the JCM for LD graduates working in the food service industry. Content validity, the extent to which a job profile represents all facets of the job, is crucial in this context. It ensures that the job descriptions are comprehensive, inclusive, and tailored to facilitate the success of employees with learning disabilities (Muñoz et al., 2022). The findings of this research will contribute to the body of knowledge on job design for individuals with learning disabilities and provide practical recommendations for enhancing their employment experiences. By addressing the specific job characteristics that impact LD graduates' performance and satisfaction, this study aims to inform policymakers, vocational training

programs, and employers in the food service industry, fostering more inclusive and supportive work environments.

Therefore, this study aimed to validate the JCM for learning disability instruments. This article aims to evaluate the content validity of job profiles in the food service industry concerning students with learning disabilities. This study investigates the integration of construct JCM to the graduates with learning disabilities in food service employment profiles. This article will provide a complete review of how interpersonal skills and task identity might be incorporated into TVET job profiles for people with intellectual disability. Through content validation, we hope to create a strong framework that covers not only the practical skill requirements but also the personal development needs of these individuals (García-Pérez et al., 2021). By doing so, we may improve the success of TVET programs by ensuring they are inclusive, empowering, and responsive to the workforce's different requirements (Stefania Giannini, 2022; Taha et al., 2022). This integration is more than just an academic exercise; it is an essential step towards developing a more inclusive and supportive vocational training environment for people with intellectual disabilities. In summary, this article explores the applicability and relevance of the Job Characteristics Model in the context of learning disabilities graduates in the food service industry. By evaluating the content validity of the JCM dimensions, the study seeks to enhance the understanding of how to design jobs that support the unique needs of LD individuals, ultimately improving their employment outcomes and contributing to a more inclusive workforce.

2. Literature Review: Food Service Industry Job Profile Overview

The food service industry, encompassing establishments such as restaurants, cafeterias, and catering services, is a critical component of the global economy. According to the National Restaurant Association, the food service industry in the United States alone is projected to reach $997 billion in sales in 2023, reflecting its robust expansion and resilience (National Restaurant Association, 2023). This sector has witnessed significant growth over the past few decades, driven by increasing consumer demand, globalization, and changes in lifestyle patterns. The food service industry offers a wide range of job opportunities, both in the front of the house and back of the house positions. The food service industry is a rapidly growing sector that offers numerous employment opportunities, including roles in restaurants, cafeterias, catering services, and hospitality establishments such as hotels and resorts (Whittenburg et al., 2020). Technological advancements have revolutionized the food service industry, enhancing efficiency, customer experience, and operational management. The integration of technology into various aspects of food service operations has become essential for businesses aiming to stay competitive and meet evolving consumer expectations. The rapid integration of technology in the food service industry necessitates a corresponding evolution in the skill sets required for its workforce (Potvin Kent et al., 2024; Siddharth Pathak et al., 2021). Employees must possess a combination of traditional culinary skills and technological proficiency to thrive in this dynamic environment.

These job profiles provide a chance for graduates to work in various functional areas such as restaurant, kitchens, reservations, receptions, receiving and purchasing area, riders and others area that related to operational in food service industry. The food service industry is a dynamic and diverse field that encompasses various job profiles (Haft et al., 2022). In Era IR4.0, there has been a significant increase in market demand for food services, making it a profitable business opportunity for young entrepreneurs with the right skills and knowledge. There are four major classes in the restaurant industry: Luxury Restaurants, Fine-Dining Restaurants, Casual Restaurants, and Quick-Service Restaurants (Parsa et al., 2020). The industry has also seen a significant growth in the number of individual working in the restaurant industry, surpassing 50% of the total workforce (Ernst & Young Advisory, 2023). This trend is expected to continue, presenting more opportunities for workers in the hospitality industry (Lopez & Ramos, 2023). The food service industry consists of various job profiles that cater to the demand for food services in today's market. Some common job profiles in the food service industry include: chefs, waitstaff, bartenders, baristas, kitchen staff, catering managers, food and beverage managers, restaurant managers, and hosts/hostesses (Huynh-Cam et al., 2022). The food service industry is a rapidly growing sector that offers numerous employment opportunities, including roles in restaurants, cafeterias, catering services, and hospitality establishments such as hotels and resorts.

2.1 Introduction to Job Characteristic Model

The Job Characteristics Model (JCM), introduced by Hackman and Oldham, is a foundational framework in organizational psychology and job design. The model suggests that five core job dimensions—skill variety, task identity, task significance, autonomy, and feedback—impact three essential psychological states: the perceived meaningfulness of work, the sense of responsibility for work outcomes, and the understanding of results. These psychological states, in turn, affect work outcomes such as job satisfaction, motivation, and performance. Although the JCM has been thoroughly validated across various industries and job roles, its application to positions held by individuals with learning disabilities (LD) remains relatively unexplored, especially within the food service industry (Kannan et al., 2022; Seqhobane & Kokt, 2021; Vieregge et al., 2023). This study aims to address this gap

by examining current job descriptions through surveys with key stakeholders, including educators and employers, to identify gaps and propose modifications that enhance inclusivity. The ultimate goal is to facilitate the integration of students with learning disabilities into the workforce, thereby promoting a more equitable and productive work environment (Margolis & Broitman, 2023). Including JCM constructs in job descriptions is crucial (Martin & Lanovaz, 2021; van Herwaarden et al., 2020). The five core constructs of the instrument, derived from the JCM, are (i) skill variety, (ii) task identity, (iii) task significance, (iv) autonomy, and (v) feedback (van Thiel et al., 2024).

In contrast, task identity refers to the extent to which a job requires a complete and identifiable piece of work (Hai & Park, 2024; Zheng et al., 2024). Understanding the importance and outcomes of their efforts can be extremely motivating and rewarding for people with intellectual disability (Munyaradzi et al., 2023). Task identity instills a sense of ownership and accomplishment in employees, which is essential for job satisfaction and overall well-being (Huynh-Cam et al., 2022). As a result, validating TVET job descriptions with distinct task identities can greatly benefit people with intellectual impairments by instilling a feeling of purpose and interest in their work. For LD graduates, task identity is particularly important as it helps in building a sense of competence and self-efficacy. Completing identifiable tasks allows these individuals to track their progress and gain a clear understanding of their contributions (Wissell et al., 2022). In the food service industry, roles can be designed to enhance task identity by assigning LD employees specific responsibilities, such as managing a particular station or completing specific dishes from start to finish. This approach not only aids in skill development but also boosts job satisfaction and motivation (Anderson et al., 2022).

Meanwhile, skill variety also important to merge with the ability and skills of LD graduates in order to facilitate working environment with a few related job tasks gradually. For LD graduates, skill variety can be a double-edged sword. On one hand, exposure to a range of tasks can enhance their skill sets and increase job satisfaction. On the other hand, too much variety without adequate support can overwhelm LD individuals, leading to stress and decreased performance (Gale et al., 2022). Research suggests that LD individuals benefit from structured training programs that gradually introduce new skills and provide consistent feedback to build confidence and competence (Li et al., 2020). As all knowns LD graduates cannot cope with multiple job task concurrent, so the research employed to tailored the job profile with their conditions and skills possessed by LD graduates. In the food service industry, there is a growing need for inclusive job profiles that cater to individuals with learning disabilities (Omar et al., 2022).

Besides, task significance refers to the degree to which a job has a substantial impact on the lives or work of others (Russell & Hellenschmidt, 2020). Jobs high in task significance is perceived as more meaningful and motivating. For learning disability graduates in the food service industry, task significance is particularly important. The inclusion of task significance in the job profiles for learning disability graduates in the food service industry is crucial for several reasons. Besides, it provides a sense of purpose and meaning to their work. LD graduates often thrive in environments where they feel their work makes a difference. The sense of making a meaningful contribution can enhance their motivation and engagement (Yamamoto & Alverson, 2022). However, it is essential to clearly communicate the impact of their work and provide regular positive reinforcement. This is important because individuals with learning disabilities may face additional challenges or barriers in their professional lives, and having a job that makes a significant impact can help boost their confidence and sense of self-worth.

Moreover, autonomy refers to the level of independence and control an individual has over their job tasks and decision-making processes (Albright et al., 2020). Autonomy also refers to the degree of freedom, independence, and discretion an employee has in scheduling their work and determining the procedures to carry it out. High autonomy is associated with increased job satisfaction and intrinsic motivation. In the food service industry, jobs can be designed to provide LD employees with autonomy in specific areas, such as choosing the sequence of tasks or managing their workstations, while ensuring that clear guidelines and support are always available. This balance helps in developing their decision-making skills and confidence (Hiller, 2021). By fostering autonomy in job coaching and mentorship programs for graduates with learning disabilities in the foodservice industry, individuals can gain the confidence and skills needed to sustain employment and thrive in their careers (Adefila et al., 2020). In the context of graduates with learning disabilities in the foodservice industry, focusing on autonomy can be particularly beneficial. Besides providing graduates with learning disabilities in the foodservice industry with opportunities for autonomy, employers can enable them to take ownership of their work and enhance their job performance and satisfaction. Autonomy can be challenging for LD graduates if not managed appropriately. While independence is empowering, too much autonomy without sufficient guidance can lead to confusion and errors. Structured autonomy, where LD individuals are given freedom within well-defined boundaries, is often more effective. Graduates with learning disabilities may face barriers in traditional employment settings due to the limitations and accommodations they may require (Dvouletý, 2020). However, by focusing on autonomy, employers can create a supportive and inclusive work environment that allows these individuals to thrive.

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In the context of learning disabilities graduates in the food service sector, the feedback job dimension is especially important (Zimmermann & Brandtner, 2022). Feedback is the degree to which carrying out work activities provides direct and clear information about performance. Feedback is crucial for individuals with learning disabilities to understand their performance, identify areas for improvement, and build confidence in their abilities (Lan et al., 2021). According to Hackman and Oldham's Job Characteristics Model, feedback is an essential component for job design and employee motivation (Liang et al., 2022). It is necessary to provide feedback in a constructive and timely manner to enhance creativity, intrinsic motivation, and overall job satisfaction among individuals with learning disabilities. Feedback is particularly vital for LD graduates as it helps in identifying areas of improvement and reinforces positive behavior. Constructive and regular feedback, coupled with supportive coaching, can significantly enhance their performance and confidence (Goulart et al., 2022). To comply with the learning disabilities of graduates in the food service sector, it is important to incorporate feedback as a job dimension. In the food service industry, implementing a robust feedback system where supervisors provide regular, specific, and constructive feedback can help LD employees understand their performance and areas for improvement. This system should be designed to be supportive rather than punitive, fostering a positive learning environment (Kalargyrou et al., 2020). Therefore, effective feedback is crucial for continuous improvement and job satisfaction.

In addition to providing a sense of purpose and meaning, task significance in job profiles for learning disability graduates in the food service industry can also enhance job satisfaction and motivation. When individuals feel that their work is making a difference and positively impacting others, they are more likely to feel satisfied with their job and remain motivated to perform their tasks to the best of their abilities (Rai & Maheshwari, 2021). Moreover, by recognizing the significance of their work, employers can create a supportive and inclusive work environment that values the contributions of all employees, including those with learning disabilities. These skills dimension is especially important for those with intellectual disabilities, who struggle with social relationships (Sigstad & Garrels, 2023). By incorporating these competencies into TVET curriculum, the government may better prepare these students for the social demands of the workplace, increasing their employability and job retention (Nkambule & Ngubane, 2023; Sefora & Ngubane, 2023). This research not only fosters a sense of belonging and acceptance but also promotes a positive company culture that embraces diversity and inclusion. Incorporating task significance in job profiles for learning disability graduates can lead to fulfilling and rewarding work experience, ultimately benefiting both the individuals and the food service industry as a whole.

3. Methodology

This study applied Lynn's (1986) technique for item construction and validity, specifically tailored for graduates with learning disabilities in the food service industry based on the Job Characteristics Model (JCM). The approach involves two main stages: (i) constructing the items and (ii) testing the item validity with experts to develop a questionnaire instrument. The development and validity assessment of the instrument are organized into three stages: (i) Stage 1: Developing the instrument for learning disabilities graduates based on JCM within the food service industry context, (ii) Stage 2: Assessing item validity through expert evaluation, and (iii) Stage 3: Conducting validity analysis. This study utilizes a quantitative research approach, collecting data through structured surveys from experts. The purposive sampling technique was employed to select experts from the Special Needs Department and food service industry stakeholders. Six experts, including experienced employers and special needs vocational trainers, were chosen to evaluate the abilities and skills of LD graduates in the food service industry.

3.1 Stage I: Development Instrument for Learning Disabilities Graduates Based on JCM in the Context of Food Service Industry Job Profile

The development of the study questionnaire involved several stages. Initially, the process began by identifying the five indicators of the Job Characteristics Model (JCM) to create an instrument tailored for graduates with learning disabilities aiming to work in the food service industry. This search for indicators was conducted using systematic literature review methods. Initially, 116 items were identified for the job profiles of graduates with learning disabilities in the food service sector. However, after addressing various constraints and aligning the final indicators with the study's objectives, only 27 items were deemed acceptable and included in the final instrument that appropriate with the constructs and elements from JCM. This thorough approach ensures a detailed understanding of how JCM dimensions apply to the target population and highlights specific areas where the model needs adaptation by refining the items and constructs in the instrument.

3.1.1 Identification

The systematic review process is divided into three main phases, which were employed to select numerous relevant papers for this study. The initial phase involves identifying keywords and searching for related terms

using thesauruses, dictionaries, similar terminology, and previous research. After all relevant terms were identified, search strings were developed for use in the Scopus and Web of Science databases (refer to Table 1). During the first stage of the systematic review process, the current research efforts successfully retrieved a total of 344 papers from both databases

Table 1 *The search string*

Scopus	TITLE-ABS-KEY ("job profile" AND disability) AND PUBYEAR > 2021 AND PUBYEAR < 2023 AND (LIMIT-TO (DOCTYPE, "ar")) AND (LIMIT-TO (LANGUAGE, "English"))
WOS	"job profile" AND disability (Topic) and 2023 or 2021 (Publication Years) and Article (Document Types) and English (Languages)

3.1.2 Screening

In the initial screening phase, no duplicate papers were found, leaving a total of 49 articles. During this step, no articles were excluded. The second phase involved screening these 49 articles based on a set of inclusion and exclusion criteria established by the researchers. The primary inclusion criterion was research articles, as they provide the most practical information. Other types of publications, such as systematic reviews, reviews, meta-analyses, meta-syntheses, book series, books, and chapters, were excluded from the study. Additionally, the review focused solely on papers written in English. The study covered a three-year period from 2021 to 2023. Furthermore, only studies conducted in all countries were selected to align with the research objective. In total, 318 publications were excluded based on these specific criteria.

3.1.3 Eligibility

For the third step, known as eligibility, a total of (n=49) articles have been ready for eligibility process. All articles' titles and key content were thoroughly reviewed at this stage to ensure that the inclusion requirements were fulfilled and fit into the present study with the current research aims. Therefore, (n=23) articles were omitted because they were not due to the out of field, title not significantly and abstract not related on the objective of the study. Finally, (n=26) articles are available for review (see Table 2).

Table 2 *The selection criterion in searching*

Criterion	Inclusion	Exclusion
Language	English	Non-English
Time line	2021 – 2023	< 2021
Literature type	Journal (Article)	Conference, Book, Review
Publication Stage	Final	In Press
Access	Open access, full text	No open access, no full text

3.1.4 Data Abstraction and Analysis

An integrative analysis was employed as one of the assessment strategies in this study to examine and synthesize various research designs. The primary objective of this study was to identify relevant topics and subtopics. The first step in developing the themes was the data collection stage. Figure 1 illustrates how the authors meticulously analyzed a compilation of 26 publications to identify assertions or content pertinent to the study's topics (see Figure 1). The authors then evaluated significant current studies to map job profiles and work abilities among students with learning disabilities, focusing on their entry into the food industry labor force according to SLD classifications. The methodologies and research results from all studies were thoroughly examined. Subsequently, the authors collaborated with co-authors to develop themes based on the evidence within the study's context. A log was maintained throughout the data analysis process to document any analyses, viewpoints, puzzles, or thoughts relevant to data interpretation. Finally, the authors compared the results to identify any inconsistencies in the theme development process. Notably, any disagreements between concepts were discussed among the authors, and the resulting themes were refined to ensure consistency.

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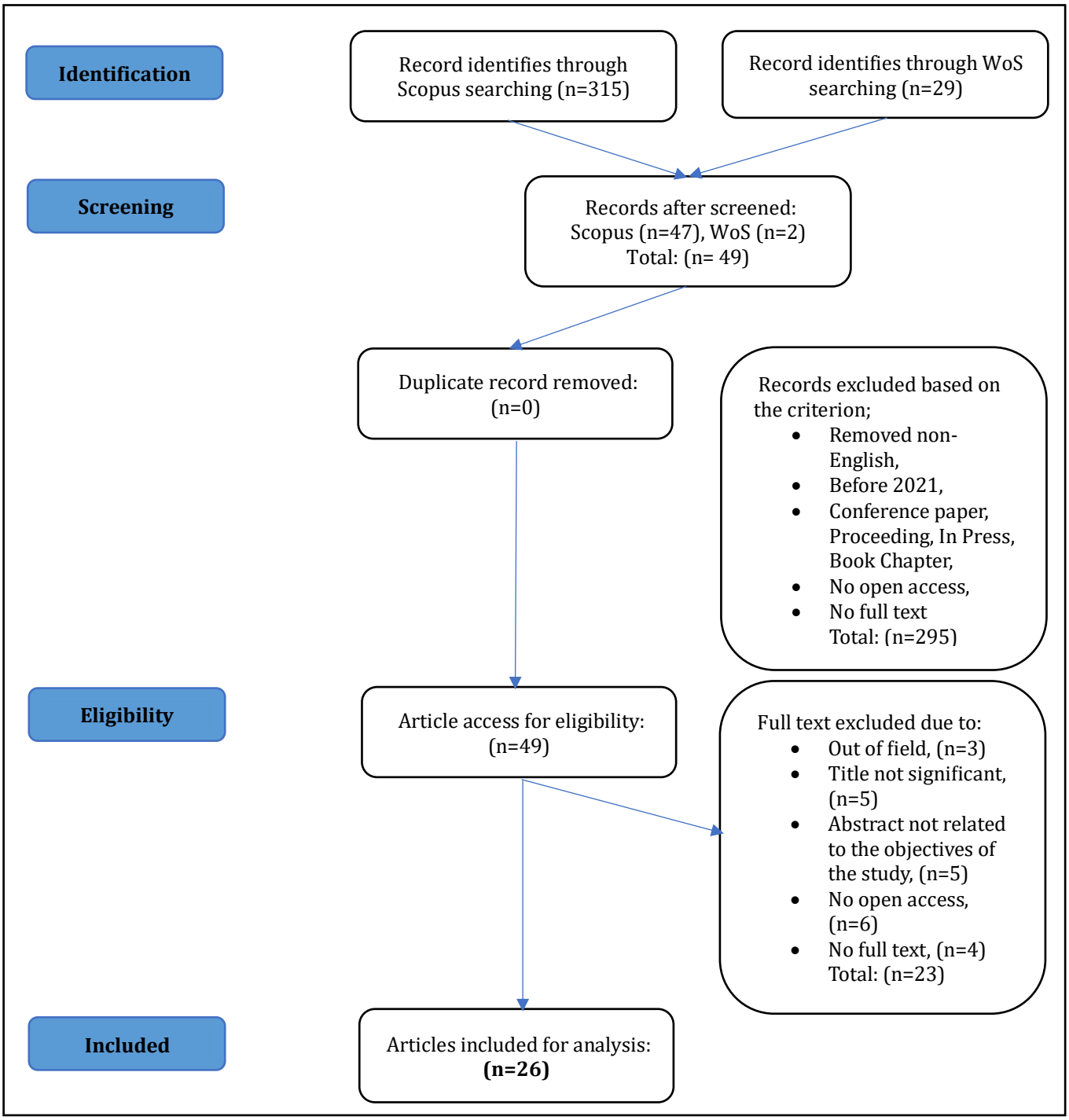

Fig. 1 *Flow diagram of the proposed searching study (Moher D, Liberati A, Tetzlaff J, 2009)*

Table 3 *Matrix job profiles and characteristics of disability students*

No.	Authors & Year	PM	C	HF	D	SS	RM	OR	VS	CS	CA	ET	RWSA
1	Pierella et al., 2023	/		/							/		
2	Son et al., 2022												
3	Ma et al., 2023												
4	Zorzi et al., 2023			/				/		/			
5	M. Zhang et al., 2022												
6	Vallefuoco et al., 2022				/		/						
7	Lupion et al., 2023		/								/		
8	Huang et al., 2022		/		/				/				
9	Perez et al., 2021	/								/			/
10	Mondellini et al., 2023												
11	Shahid et al., 2022			/		/	/	/					
12	Leonardi et al., 2022	/			/							/	
13	Chih-Hsuan et al., 2023		/	/	/				/				
14	Pham, 2023		/	/						/			
15	Zambrano et al., 2023					/							
16	McLean et al., 2021	/				/		/					
16	Tang et al., 2023		/				/			/		/	
18	Mohamed et al., 2021	/			/								/
19	Lin et al., 2023												/
20	Pitts et al., 2021	/			/				/				
21	Nooh, 2022b												
22	Fu et al., 2021			/			/			/		/	
23	Ditthapron et al., 2022				/			/					/
24	Suresh & Dyaram,2022			/				/			/		
25	Dukes et al., 2022				/					/		/	
26	Maheu et al., 2022					/							

Notes: **PM**= Poor Memory, **C**=Creative, **HF**= High Focus, **D**=Distractible, **SS**=Strong Systemize, **RM**=Repetitive Movement, **OR**=Obsessive Routine, **VS**=Visual Spatial Skills, **CS**=Communication Skills, **CA**=Cognitive Abilities, **ET**=Exceptional Talents in very specific areas, **RWSA**=Reading Writing Spelling Abilities

Table 4 *Mapping the job profiles for SLD in food industry*

Food Industry Job Profiling	host/ hostess,	waiter/ waitress	cashier	Commis (Food Prep)	Stor keeper	Steward (dishwasher)
Creative (in specific areas)	√	√				
High focus (related to interests)			√	√		√
Distractible					√	
Strong systemizes/					√	
Obsessive routines				√	√	√
Repetitive body movements	√	√				
Prodigious memory/Poor memory						√
Visual-spatial skills	√	√				
Exceptional talents in very specific areas				√	√	√
Social skills	√	√	√		√	
Reading, writing and/or spelling abilities	√	√	√			
Cognitive abilities	√	√	√			
Communication skills	√	√	√	√	√	√

Sources: Job profiles adaptation from C. Chih-Hsuan et al (2023) and M. N., Nooh et al (2022)

3.2 Stage II: Items Validity Assessment by Experts

The second stage of the instrument construction process involved experts assessing item validity before data collection and analysis through the development of questionnaires. Selected experts evaluated the item validity to provide insights and determine how well the questionnaire items reflected the constructs being examined (Hassan & Amry Minggo, 2022). Moreover, expert validation of instrument items is crucial for achieving high-quality questionnaire data, minimizing respondents' difficulties in understanding item statements, and ensuring the development of clear, concise, and succinct questionnaire items. Generally, instrument validity is essential in determining how effectively the instrument measures the necessary aspects and represents the key properties important to researchers. The population experts have been selected from special educational sectors and food service industry player in Klang Valley area The samples of expert's selections applied purposive sampling technique because the researcher intentionally selects experts based on specific characteristics or qualities. The main purpose is to focus on particular characteristics of a population that are of interest, which will best enable the researcher to answer research questions(Obilor, 2023; Thomas, 2022). The experts were selected based on their work experience, with a requirement of at least 10 years of service in the food service and special needs education sectors (Zainal et al., 2020). A total of six experts were selected and agreed to participate as instrument validation experts in this research. A purposive sampling technique was used to identify the expert population. The experts were chosen according to their fields, such as special needs and food service sectors. Those who agreed to contribute to this research were mainly teachers, trainers, employers, and lecturers with prior experience in dealing with and managing students with learning disabilities. Table 1 lists the profiles of the instrument validity experts.

Table 5 *Profile of instruments validity experts*

List of Experts	Years of Field Experienced	Expertise	Positions
Expert 1	15	Special Needs	Senior Lecturer
Expert 2	13	Special Needs	Senior Lecturer
Expert 3	18	Special Needs	Excellent Teacher
Expert 4	28	Food Service Sector	Executive Chef
Expert 5	21	Food Service Sector	Senior Lecturer
Expert 6	14	Food Service Sector	Teacher Coordinator

The lack of satisfactory validity can affect the psychometric properties of an instrument, even if it demonstrates a high level of reliability. Therefore, conducting a validity assessment ensures that the instrument is justifiable, accurate, appropriate, useful, and meaningful (Zainal, 2020). Validity is categorized into several types with distinct purposes, such as face validity, content validity, criterion validity, and construct validity. Content validity, in particular, is an early stage in the instrument validation process (Delubom & Marongwe, 2022). In this study, content validity was employed to evaluate each questionnaire item. The two fundamental aspects of content validity are the appropriateness and representativeness of the items in measuring what the researcher intends to measure (Rahim et al., 2018; Zainal, 2020). Expert review is essential to ensure the accuracy and clarity of the items when applying instrument validity. Consequently, conducting content validation involves identifying a group of experts with the knowledge and experience relevant to the study's focus. Specifically, item validity was assessed by experts in special needs and food service content, along with the integration of the Job Characteristics Model (JCM) construct into the instrument's development. The study selected six experts or panel members to validate the JCM approach items before proceeding with the pilot study and actual data collection. This number of panel members is considered appropriate for research, as noted by Polit et al. (2007) and Lynn (1986), who recommend between three and ten experts. The panel evaluated the questions based on their clarity, language use, the appropriateness of the scoring scale, and the level of agreement with the presented items. Each question was rated on a five-point Likert scale: (1) strongly disagree, (2) disagree, (3) not sure, (4) agree, and (5) strongly agree. Table 2 outlines the validity criteria for each scale in the instruments. Additionally, the validity testing period lasted for one month, from March 2024 to April 2024, to obtain the results of expert assessments on the evaluated items.

Table 6 *Analysis of each indicator validity criteria based on a 5-point Likert scale*

Average	Validity Criteria
4.21 – 5.00	Perfectly Valid
3.41 - 4.20	Valid / No Revision
2.61 – 3.40	Enough Valid (Average/No Revision)
1.81 – 2.60	Less Valid / Partial Revision
1.00 – 1.80	Invalid / Removed or Total Revision

3.3 Stage 3: Validity Analysis

Researchers employ various methodologies to determine validity results in the content validity process (Zainal, 2020). This study utilized the Item-Content Validity Index (I-CVI) analysis and the Mean Average analysis method. These analyses assess inter-expert reliability and measure quantitative content validity procedures (Dewi et al., 2020). This approach also helps establish the necessity and acceptability of retaining each item in the instrument. The I-CVI method was calculated by determining the relevant and agreed-upon mean score for each item using the formula provided by Karbono and Retnawati (2020).

$$Item\ Content\ Validity\ Indexes\ (I-CVI) = \frac{The\ total\ score\ agreed\ by\ the\ expert}{Number\ of\ experts}$$

To evaluate the acquired I-CVI value, the total average for the scale was calculated by dividing the total score agreed upon by the experts by the number of experts. An acceptable and relevant value for a newly designed instrument is 0.80 (Polit et al., 2007). Results exceeding this threshold, depending on the number of experts involved, indicate a good validity value for the instrument item. The next step involves classifying the item validity criteria using the mean average calculation based on the following formula provided by Arikunto (2010):

$$X = \frac{\mathbf{a}\ `I}{n}$$

X = The average of each indicator
a `I = Total number of the answers scores of the respondents
n = Numbers of respondents

The average mean result from each expert evaluation showed a mean value ranging from 3.41 to 5.00. These results indicated that the evaluated items were within the acceptable range of 3.41 to 5.00, eliminating the need for item repetition. The mean classification used in this study is shown in Table 3. Experts' feedback on the item statements was also taken into account, and adjustments were made to help respondents better understand the questionnaires, such as aligning the item statements with the suitability of the Job Characteristics Model (JCM) for graduates with learning disabilities in the food service working environment.

4. Result and Discussion

Table 7 summarizes the results of expert agreement on the content validity index items, including item clarity, language appropriateness, and the suitability of the scoring scale, which ranged from strongly disagree to strongly agree. The I-CVI findings revealed that certain items, particularly those under the skill variety construct, achieved a high value of 1.00, indicating that all sub-items were accepted by the experts. For other constructs, such as task identity, task significance, autonomy, and feedback, some items required revisions to improve clarity and ensure that each item accurately represented the corresponding JCM construct. These revisions were necessary to provide a precise measurement for assessing the employment readiness of graduates with learning disabilities in the food service industry. Each construct within the JCM was reviewed, and items were categorized as either valid or valid with revisions.

4.1 Construct of Job Characteristic Model Instruments

In selecting the final indicators for learning disabilities graduates in the food service industry based on the Job Characteristics Model, no items were excluded. The accepted items were deemed clear and easy to understand according to expert opinions. Additionally, several evaluators with expertise in the food service sector recommended including all 27 items, as each item aligned with the JCM scope for graduates with learning disabilities in this field. Following the consideration of feedback and recommendations, the content validity test results were applied according to the construct outlined in Table 7 (Column G). Results indicates that 20 items were fully accepted without any revisions, while 7 sub-items were accepted with revisions. Overall, a total of 27 items across 5 constructs were validated for the JCM job tasks for food service graduates with learning disabilities.

Table 7 *Construct of job characteristic instrument's validity test result*

A	B	C	E	F	G
No.	Items (Job Characteristic Model / Construct)	Number of Experts Agree	Experts Comments	I-CVI Value	Final Result of the Content Validity Test
			Skill Variety		
1	Technical Skills	6	-	1.00	Accepted Valid
2	Improved Knowledge	6	-	1.00	Accepted Valid
3	Improved Skills	6	-	1.00	Accepted Valid
4	Opportunity in Various Business Aspect	6	-	1.00	Accepted Valid
5	Dealing with various style of customers	6	-	1.00	Accepted Valid
6	Various Aspect of Service Quality	6	-	1.00	Accepted Valid
7	Dealing with vary Financial Operational	6	-	1.00	Accepted Valid
			Task Identity		
8	Complete the Task	6	-	1.00	Accepted Valid
9	Make Own Decision	6	-	1.00	Accepted Valid
10	Task Controlled	6	-	1.00	Accepted Valid
11	Task Identification	5	Should be able to have own preferences	0.83	Accepted (with a specific statement)
12	Having Their Own Style	6	-	1.00	Accepted Valid

			Task Significance		
13	Work Performance	6	-	1.00	Accepted Valid
14	Positive Impact of Job Task	6	-	1.00	Accepted Valid
15	Accept Appreciation	5	Focus on best services not mainly for appreciation	0.83	Accepted (with a specific statement)
16	Evaluate the important contribution of task	6	-	1.00	Accepted Valid
17	Teamwork with Colleague	6	-	1.00	Accepted Valid
			Autonomy		
18	Self-Evaluation	5	Not all graduates can evaluate themselves	0.83	Accepted (with a specific statement)
19	Considerations	6	-	1	Accepted Valid
20	Self-Intelligence	5	Differ self-intelligence each individual	0.83	Accepted (with a specific statement)
21	Make Own Consideration	5	Some consideration can be false	0.83	Accepted (with a specific statement)
22	Identify Priority	5	Difficult to prioritize work depends on the situation	0.83	Accepted (with a specific statement)
			Feedback		
23	Clarified Task Implementation	6	-	1	Accepted Valid
24	Superior Provide a Responses	6	-	1	Accepted Valid
25	Need a Feedback	6	-	1	Accepted Valid
26	Hardness of Task Stimulate Motivations	6	-	1	Accepted Valid
27	Appreciations of the Service	5	Need responses to improved	0.83	Accepted (with a specific statement)

The results of each construct in JCM have been explained First construct is Skill Variety there has seven elements which all of these elements all the experts strongly agreed with I-CVI value of 1.00 which the items have been valid accepted. This finding shows that the elements of (1) technical skills, (2) improved knowledge, (3) improved skills, (4) opportunity in various business aspect, (5) dealing with various style of customers, (6) various aspect of services and (7) dealing with vary financial Operational is important for students with learning disabilities to be able in daily operational job profile. All of Skills variety elements become the best practices for the graduates with learning disability in order to meet the job scope expectation in each of job profile in food services industry. Graduates must be able to have multiple skills in the context of their job scope. As for an example, besides being a cashier, the personnel also must have a good communication skill to deal with variety of guests.

Furthermore, the construct of Task Identity there has four over five elements all the experts strongly agreed with I-CVI value of 1.00 which the items has been valid accepted. This finding shows that the elements of (1) complete the task, (2) make own decision, (3) task controlled and (4) having their own style has been valid accepted. Meanwhile only one element accepted with revised, which is (5) task identification with revised of the elements with should be able to have own preferences among LD students. This is important so that it will give good outcome and feedback from their own style of works. This will give identification of their outcomes.

Besides, next construct is Task Identity, there has four over five elements all the experts strongly agreed with I-CVI value of 1.00 which the items has been valid accepted. This finding shows that the elements of (1) work performance, (2) positive impact of job task, (3) evaluate the important contribution of task and (4) having a teamwork with colleague has been valid accepted with I-CVI value of 1.00. Meanwhile only one element accepted with revised, which is (5) accept appreciation with revised of the elements with focus on the best services not mainly for appreciation among LD students. This is important so that it will give the task significance by the

students with learning disabilities. They will understand the value of each job profile and job task which has been given for them. This will make sure they will be performed accordingly to complete their responsibility in a good manner.

Meanwhile construct of Autonomy has four over five elements with I-CVI value of 0.83 which the items have been accepted with revised. This finding shows that the elements of (1) self-evaluation should be replaced with not all graduates can evaluate themselves, (2) self-intelligence should be different for each individual, (3) make own consideration can be replace with some consideration could be false, and (4) Identify priority can be replace by difficult to prioritize work depends on the situations. Meanwhile only one element has been valid accepted that which is (5) elements of consideration with I-CVI value 1.00. This is important so that it will give autonomy to the learning disabilities students. All of these anatomy elements play a vital role for a successful worker in which the personnel must have a minimum decision maker in their roles of job scope.

Finally, the construct of Feedback there has four over five elements all the experts strongly agreed with I-CVI value of 1.00 which the items has been valid accepted. This finding shows that the elements of (1) clarified task implementation, (2) superior provide a response, (3) need feedback and (4) Hardness of task stimulates motivations has been valid accepted with I-CVI value of 1.00. Meanwhile only one element accepted with revised, I-CVI value of 0.83 which is (5) appreciation of the service accepted with revised of elements need responses to improved. This is feedback input is important for learning disabilities graduated to get response from some stakeholders to improve the services which been provide by the graduates with learning disabilities.

5. Conclusion

Developing research instruments is essential for ensuring reliable and usable questionnaire data. To guarantee that these instruments are reusable, development must be conducted with precision and validity in mind (Ahmad and Abdullah, 2020). A well-constructed instrument should effectively assess the study variables without issues. Therefore, the I-CVI content validity test was used to determine if the experts' agreement on the item statements was high and exceeded the established threshold values. The study's instrument, distributed via questionnaires, demonstrated a high and acceptable level of validity. The experts' assessment of the mean average regarding the clarity of the questionnaire items, language appropriateness, and scoring scale was also satisfactory (Koolnaphadol et al., 2022). As a result, no further expert re-evaluation was necessary. The findings suggest that the construction of the questionnaire items can be deemed suitable and applied in future studies to measure the Job Characteristics Model for graduates with learning disabilities entering the food service labor force.

This study provides an in-depth analysis of the content validity of the Job Characteristics Model (JCM) for learning disabilities (LD) graduates within the food service industry. By integrating the core dimensions of the JCM—skill variety, task identity, task significance, autonomy, and feedback—this research highlights how these job characteristics align with the unique abilities and needs of LD graduates. The findings indicate that while the JCM provides a robust framework for job design, modifications are necessary to optimize its application for LD graduates in the food service industry (Cangialosi et al., 2023; Sjoer & Biemans, 2020). Skill variety and feedback emerged as particularly critical dimensions, contributing significantly to job satisfaction and performance when appropriately managed. Ensuring a balanced approach to task identity and task significance enhances LD employees' sense of accomplishment and motivation. Autonomy, while valuable, must be structured to provide sufficient support and guidance to prevent overwhelm. Technological advancements and evolving job requirements in the food service industry necessitate a dynamic approach to job design, emphasizing the importance of digital literacy, technical skills, and customer relationship management (Shahid et al., 2022). By aligning job characteristics with the capabilities of LD graduates, employers can create more inclusive and supportive work environments, ultimately enhance employment outcomes and foster a diverse workforce. This study underscores the need for tailored vocational training programs and supportive workplace practices that address the specific challenges faced by LD individuals. Implementing these recommendations can lead to improved job performance, higher job satisfaction, and increased retention of LD employees in the food service industry.

In conclusion, the integration of the JCM with the unique needs of LD graduates offers valuable insights for enhancing job design and support mechanisms. By adapting the JCM dimensions to better suit LD individuals, the food service industry can not only improve their employment experiences but also contribute to a more inclusive and equitable workforce. Future research should continue to explore these adaptations and evaluate their long-term impact on employment outcomes for LD graduates.

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Conflict of Interest

Authors declare that there is no conflict of interests regarding the publication of the paper.

Author Contribution

The authors confirm contribution to the paper as follows: ***study conception and design:*** *NNJNO, MSR, FMK, MZAM,* ***data collection:*** *NNJNO, SS, NAH;* ***analysis and interpretation of results:*** *NNJNO, MSR, FMK, MZAM,* ***draft manuscript preparation:*** *NNJNO, MSR, FMK, MZAM, SS, NAH. All authors reviewed the results and approved the final version of the manuscript*

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