

Evaluating the Effectiveness of Inclusive Training for Persons with Disabilities: A Qualitative Study Using the Kirkpatrick Model

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DOI Link: <http://dx.doi.org/10.6007/IJARPED/v14-i3/26120>

Published Online: 03 August 2025

Abstract

This study explores the effectiveness of a structured training program designed for persons with disabilities (PWDs) using the Kirkpatrick Model as a four-level evaluation framework. Through a qualitative case study approach involving semi-structured interviews with 12 PWD participants from training programs organized by Yayasan Pembangunan Keluarga Darul Ta'zim (YPKDT), this research investigates training outcomes across reaction, learning, behavior, and results. Thematic analysis revealed high participant satisfaction, tangible knowledge and skill gains, application of learned behaviors in real-life settings, and meaningful socio-economic impacts including increased income and self-reliance. However, areas for improvement were also identified, such as accessibility, content customization, and the need for continuous mentoring. The study proposes policy and instructional recommendations to enhance inclusivity, engagement, and long-term impact. Findings support the need for inclusive, modular, and market-driven training models that empower PWDs not only to participate in the digital economy but to thrive as independent contributors and leaders.

Keywords: Evaluating the Effectiveness, Inclusive Training, Disabilities, Qualitative Study, Kirkpatrick Model

Introduction

In recent years, there has been growing global recognition of the need to promote inclusive development by ensuring equal access to education, employment, and skill-building opportunities for persons with disabilities (PWDs). As part of this agenda, training programs play a pivotal role in enhancing the capabilities of PWDs and promoting their socio-economic participation. Beyond imparting technical knowledge, effective training can serve as a vehicle for empowerment, self-reliance, and community integration (Maart et al., 2019).

However, while training initiatives for PWDs are expanding, the evaluation of their effectiveness remains underdeveloped, particularly from a qualitative perspective. Many existing assessments focus on output indicators such as attendance, completion rates, or short-term gains, often overlooking subjective experiences, behavioral changes, and long-

term outcomes. A more holistic approach is needed to assess the multidimensional impact of training, especially when targeting marginalized groups.

The **Kirkpatrick Model** (Kirkpatrick & Kirkpatrick, 2009) offers a widely accepted framework for evaluating training effectiveness across four hierarchical levels: **Reaction** (participants' satisfaction), **Learning** (knowledge or skills acquired), **Behavior** (changes in practice or attitude), and **Results** (long-term individual or organizational outcomes). Although traditionally used in corporate and professional development settings, this model has proven valuable in educational and social training contexts, including for programs targeting PWDs (Smidt et al., 2009; Alsalamah & Callinan, 2021).

This study adopts a **qualitative approach** to explore the effectiveness of a training program designed for PWDs using the Kirkpatrick Model. The focus is not only to determine whether training outcomes were achieved but to understand the depth of participant experiences and the factors that facilitated or hindered transformation. By doing so, the study contributes meaningful insights to the design and evaluation of inclusive training practices.

Literature Review

Training and Empowerment for Persons with Disabilities

Persons with disabilities (PWDs) often face intersecting challenges—physical, social, and institutional—that impede access to meaningful education, employment, and entrepreneurship opportunities. Inclusive training programs are vital in bridging these gaps and fostering empowerment. Studies have emphasized that effective training not only improves technical competencies but also contributes to confidence-building, social inclusion, and a stronger sense of independence (Maart et al., 2019).

Adaptive approaches such as the Adaptable Component-based Assessment (ACA) model underscore the importance of personalized learning, allowing training content to be adjusted according to the specific needs and capacities of each participant. Such methods align with Universal Design for Learning (UDL) principles, promoting access and equity in learning environments (Rose & Meyer, 2002). Despite the growing implementation of such models, evaluations often fall short in capturing holistic outcomes, especially in real-life application and long-term transformation.

Motivational Factors Driving Training Participation Among Persons with Disabilities (PWDs)

Motivation plays a pivotal role in determining not only whether persons with disabilities (PWDs) enroll in training programs, but also how actively they engage with and benefit from them. A review of related literature reveals five dominant motivational factors that consistently influence participation and outcomes: self-efficacy and capability, economic independence, social connection, social impact, and recognition and achievement. These themes align closely with established psychological and sociological frameworks, including self-determination theory and necessity-driven entrepreneurship, underscoring the complexity and personal significance of training engagement among PWDs.

Self-Efficacy and Capability

Many PWDs are driven by a strong desire to challenge societal stereotypes and demonstrate their ability to succeed in business and employment despite their disabilities. This aligns with

Bandura's concept of self-efficacy, which emphasizes belief in one's capabilities to achieve goals (Bandura, 1977). Studies show that higher self-efficacy among PWDs correlates with increased participation in training and employment programs (Contreras et al., 2022; Swanzy et al., 2025). Moreover, self-efficacy mediates the relationship between training and performance, reinforcing its role in motivation (Saad et al., 2022).

Economic Independence

Due to limited formal employment opportunities, many PWDs view entrepreneurship as a viable pathway to financial autonomy. Economic empowerment programs such as R.I.S.E. have demonstrated that training in business skills significantly increases income and self-reliance among PWDs (Maybank Foundation, 2021). Vocational training also enhances employability and reduces dependency on family or government support (Briones, 2018; Subhi et al., 2024).

Social Connection

Training programs offer more than skill development—they serve as platforms for building supportive peer networks. Social capital, defined as the resources embedded in social relationships, has been shown to positively influence self-employment outcomes among PWDs, especially when mediated by self-efficacy (Kyambade et al., 2024). Peer mentoring and inclusive group activities foster a sense of belonging and reduce isolation (Borja, 2015; Bridger, 2024).

Social Impact

Some PWDs pursue entrepreneurship not only for personal gain but to serve as role models and contribute to their communities. Social enterprises have proven to be ethical mechanisms for inclusion, allowing PWDs to participate in socio-economic development while promoting disability awareness (Medalla & Medalla, 2018). This aligns with self-determination theory, which highlights the importance of purpose and autonomy in motivation (Ryan & Deci, 2000).

Recognition and Achievement

External validation—through awards, public acknowledgment, or peer recognition—serves as a powerful motivator. Recognition reinforces identity and affirms the value of one's contributions (Tenney, 2025; Thibaudeau, 2023). Neuroscience research shows that frequent, specific recognition activates dopamine pathways, sustaining motivation and reinforcing positive behaviors (Ross, 2025). For PWDs, such acknowledgment can counteract stigma and elevate self-worth.

Barriers to Effective Participation in Training

Despite high motivation, persons with disabilities (PWDs) often confront several persistent challenges that hinder their full participation in training programs. These barriers not only reduce the effectiveness of training but may also erode the confidence and motivation that PWDs bring into these initiatives (World Health Organization, 2022).

Physical Accessibility

Inaccessible venues, transportation systems, and built environments continue to limit attendance for individuals with mobility impairments. Studies have shown that many vocational and educational institutions lack ramps, elevators, accessible restrooms, and

signage that meet universal design standards (Ng et al., 2019; Bognot et al., 2023). Even when infrastructure exists, poor maintenance and lack of enforcement of accessibility laws can further restrict participation (Md Pauzi, 2019).

Lack of Support Tools

The absence of assistive technologies, interpreters, and adaptive learning materials—such as Braille, screen readers, and captioning—alienates certain disability groups and creates unequal learning conditions (Borg et al., 2011; UNESCO, 2023). In Southeast Asia, limited funding and low awareness among educators have contributed to the underutilization of available assistive tools (SEAMEO SEN, 2023). Without these supports, PWDs may struggle to engage with content or communicate effectively during training.

Social Stigma and Discrimination

Misconceptions about the capabilities of PWDs often result in lower expectations, exclusion from mainstream programs, and limited opportunities for advancement. Research in Malaysia and Cambodia has documented how stigma leads to marginalization in both educational and employment settings (Khoo et al., 2013; Takasaki, 2024). Discriminatory attitudes from trainers, peers, and employers can discourage participation and reinforce negative self-perceptions (Bonaccio et al., 2020).

Unmet Additional Needs

Many training programs are not sufficiently flexible to accommodate diverse learning needs, such as slower learning pace, alternative assessment formats, or personalized coaching. This lack of differentiation can disadvantage PWDs with cognitive, sensory, or psychosocial disabilities (Sudarmika et al., 2023; HRD Corp, 2025). Programs that fail to provide individualized support risk excluding participants who require tailored interventions to succeed.

The Kirkpatrick Model for Training Evaluation

The Kirkpatrick Model (Kirkpatrick & Kirkpatrick, 2009) continues to serve as a widely accepted framework for evaluating the effectiveness of training programs across diverse fields, including professional development, education, and social initiatives. Specifically, the model comprises four distinct levels—Reaction, Learning, Behavior, and Results—which together offer a comprehensive structure for assessing both immediate and long-term impacts of training.

To begin with, Level 1, Reaction evaluates participants' initial responses to the training experience. This includes their satisfaction, engagement, and perception of relevance. *In particular*, when applied to contexts involving persons with disabilities (PWDs), this level becomes crucial in gauging whether the training environment and materials were inclusive and accessible, ensuring that participants felt respected and accommodated.

Building on this, Level 2, Learning examines the degree to which participants have acquired the intended knowledge, skills, and attitudes. Accurate evaluation at this level requires adaptive strategies tailored to the diverse needs of PWDs. For instance, incorporating sign language, tactile resources, or visual aids allows learning outcomes to be properly measured and interpreted, thus enhancing the reliability of assessment.

Moving forward, Level 3, Behavior investigates the transfer of learning into real-world practice. **However**, in many disability-focused training programs, this level remains underexplored due to the challenges associated with longitudinal follow-up evaluations. Nevertheless, understanding how participants apply acquired skills in employment or daily life is essential for determining long-term program success.

Finally, Level 4, Results assesses the broader impact of training on individual and community outcomes, such as increased independence, improved quality of life, or enhanced employability. As noted by Smidt et al. (2009) and Alsalamah and Callinan (2021), evaluations at this level require context-sensitive metrics and sustained tracking, especially when working with underserved populations.

Integrating Qualitative Approaches with the Kirkpatrick Model

To address the limitations of purely quantitative evaluations, a growing body of research has explored the integration of qualitative methods within the Kirkpatrick Model, particularly in disability-related training contexts. This hybrid approach allows for a more nuanced understanding of participant experiences, behavioral change, and long-term impact.

For instance, Nabachwa et al. (2025) conducted a qualitative evaluation of a disability-inclusive training program in Uganda. Their findings revealed high levels of participant satisfaction and knowledge acquisition (Levels 1 and 2), but limited translation into sustained behavioral or economic outcomes (Levels 3 and 4), largely due to systemic barriers such as inaccessible infrastructure and limited employment opportunities.

Similarly, a UK-based review by the National Development Team for Inclusion (NDTi, 2020) emphasized the effectiveness of contact-based learning, where participants directly engage with persons with disabilities. This method was shown to foster deeper empathy and behavioral change (Level 3) compared to traditional lecture-based formats. However, capturing long-term results (Level 4) remained challenging without longitudinal qualitative follow-up.

Expanding on this, Smidt et al. (2009) evaluated 12 disability support training programs using the Kirkpatrick framework. They found that while most programs effectively measured reaction and learning (Levels 1 and 2), few assessed behavioral change or organizational impact. The authors advocated for qualitative interviews and observational methods to better capture these higher-level outcomes.

In a mixed-methods study, Jones et al. (2020) applied the Kirkpatrick Model to evaluate pediatric nursing training in Australia. Their use of semi-structured interviews and thematic analysis revealed that while participants demonstrated improved clinical confidence (Level 2), actual changes in practice (Level 3) were influenced by mentorship quality and workplace culture—factors best understood through qualitative inquiry.

Additionally, Sudarmika et al. (2023) conducted a qualitative descriptive study on nurse and midwife training in Indonesia. Using focus group discussions and thematic coding aligned with the Kirkpatrick Model, they found that although knowledge and attitudes

improved (Levels 1 and 2), behavioral change was inconsistent and dependent on contextual factors such as leadership support and peer reinforcement.

Collectively, these studies underscore the value of integrating qualitative methods into Kirkpatrick-based evaluations, especially when assessing training programs for underserved populations such as persons with disabilities.

Methodology

Research Design

This study employed a qualitative research design to explore the effectiveness of a structured training program implemented for persons with disabilities (PWDs) by Yayasan Pembangunan Keluarga Darul Ta'zim (YPKDT). The Kirkpatrick Model (Kirkpatrick & Kirkpatrick, 2009) served as the primary evaluative framework, encompassing four levels: Reaction, Learning, Behavior, and Results. A case study approach was adopted to enable in-depth, contextual understanding of participants' perceptions and the training's impact on their personal and professional lives.

Participants

Participants were selected using purposive sampling, chosen for its ability to identify individuals with direct and relevant experience aligned with the research objectives. The sample comprised PWDs who had completed YPKDT training programs in 2023. This approach allowed for the intentional inclusion of voices capable of offering rich, firsthand insights into program outcomes and associated challenges.

The demographic profile showed that most participants held secondary-level education and vocational certifications. The majority had physical disabilities, while others experienced sensory or cognitive impairments. Training areas included digital marketing, entrepreneurship, tailoring, electrical work, cooking, and massage therapy. A total of 12 participants were recruited, ensuring diversity in both the type of disability and training received.

Data Collection

Data were collected through semi-structured interviews designed around the four levels of the Kirkpatrick Model. The interview protocol was developed in alignment with this model and reviewed for validity by one academic expert and one practitioner to ensure relevance and appropriateness. Interviews were conducted as small group discussions, with one researcher facilitating conversations among two to three respondents seated at a single table. Each session lasted approximately four hours, allowing ample time for reflection and dialogue.

In recognition of communication challenges among some participants, a professional sign language interpreter was engaged to ensure inclusivity and accuracy of responses. All sessions were audio-recorded, transcribed, and anonymized to protect confidentiality and uphold ethical standards.

Data Analysis

A thematic analysis was applied to the transcribed data following Braun and Clarke's (2006) six-phase framework. Initial insights were drawn through open coding, identifying granular concepts across responses. Subsequently, axial coding was used to relate these concepts and organize them into a hierarchical structure of parent and child themes. This layered coding approach facilitated the extraction of nuanced, meaningful insights from the raw qualitative data.

Findings

The findings are organized according to the four levels of the Kirkpatrick Model, and are presented in two sections: (1) Assessment, and (2) Suggestions for Areas of Improvement.

Level 1: Reaction

Assessment

Level 1 of the Kirkpatrick Model assesses participants' initial reactions to the training program. The findings from this study indicate an overwhelmingly positive reception among persons with disabilities (PWDs) who participated in the training provided by Yayasan Pembangunan Keluarga Darul Ta'zim (YPKDT). The analysis of interview data revealed six child themes that clustered naturally under three overarching parent themes: Perceived Value of Training, Personal and Psychological Empowerment, and Social Connectedness and Support.

Parent Theme 1: Perceived Value of Training

This theme encompasses how participants assessed the usefulness, relevance, and applicability of the training. It reflects their overall judgment about the program's impact on their entrepreneurial journey.

(i) Content Relevance

Participants found the training content highly relevant to their business goals and daily realities. The modules addressed practical needs, especially in entrepreneurship and digital marketing.

"What was taught matched exactly with my business. I could apply it immediately."

(ii) Practicality and Immediate Application

The skills and knowledge gained were seen as directly applicable. Participants were able to use what they learned in real-time, particularly in enhancing their business strategies.

"I used the digital marketing skills right after the course — and I could see the results quickly."

(iii) Peer Recommendations and Advocacy

Reflecting the high satisfaction level, participants strongly expressed their willingness to recommend the training to other PWDs, highlighting the perceived quality and impact.

"I've already encouraged my OKU friends to join this program. It's worth it and life-changing."

Parent Theme 2: Personal and Psychological Empowerment

This theme represents the internal changes participants experienced, particularly in relation to their confidence, motivation, and sense of personal worth.

(i) Enjoyment and Satisfaction

Participants described the training as enjoyable, engaging, and rewarding. The experience motivated them to pursue further self-improvement and entrepreneurship.

"I really enjoyed it. The training didn't just teach us business skills — it made me more motivated to move forward."

(ii) Personal Growth and Empowerment

Many participants reported increased self-confidence and a stronger belief in their capabilities. They viewed the training as a turning point in overcoming internal doubts and societal limitations.

"I used to be shy when talking to people, but after joining this course, I'm more confident and believe in myself."

Parent Theme 3: Social Connectedness and Support

This theme captures the significance of interpersonal relationships and peer interaction facilitated through the training program.

(i) Social Interaction and Peer Support

Participants valued the opportunity to connect with fellow PWDs. This networking enabled emotional support, sharing of experiences, and the formation of business and social alliances.

"It was great meeting others like me. We could share our stories and support one another."

Areas for Improvement in Training Delivery

While participants generally responded positively to the training program, several constructive suggestions emerged. These insights, organized under two overarching themes—Structural and Accessibility Concerns and Pedagogical Enhancements—reflect participants' aspirations for a more inclusive and responsive learning environment.

Parent Theme 1: Structural and Accessibility Concerns

This theme encompasses issues related to the logistics, infrastructure, and inclusivity of the training delivery.

(i) Training Duration

Participants expressed differing opinions on the training duration. Some felt the sessions were too short to fully absorb the material, while others preferred shorter modules for easier comprehension and focus.

"For me, the training was too short — I needed more time to really understand everything."

"Others may benefit from longer sessions, but I get tired easily. Shorter, focused modules would help."

(ii) Accessibility of Venue and Materials

Although the overall environment was seen as welcoming, several participants noted that the physical venues and learning materials were not fully adapted to accommodate all types of disabilities.

"The place had no ramp, so I struggled with my wheelchair."

"For someone with low vision, the slides were too small and had too many colors — it was hard to follow."

Parent Theme 2: Pedagogical Enhancements

This theme captures feedback related to teaching quality, engagement, and instructional design.

(i) Scope and Customization of Content

Some participants felt that the training was too generic and would benefit from being more tailored to individual abilities, business stages, or learning styles.

"I wish the content was more specific to people who are already running businesses, not just for beginners."

"It would help if the training matched our actual needs — some parts were too basic for me."

(ii) Trainer Sensitivity and Awareness

Participants emphasized the importance of trainers who are empathetic and knowledgeable about the unique challenges faced by PWDs. A few noted that some facilitators lacked this awareness.

"The trainer didn't really understand what we go through. It felt like they were just following a script."

"We need facilitators who can relate to our situation and adjust their methods accordingly."

(iii) Interactivity and Engagement

While certain sessions were interactive and lively, others were reported to be lecture-heavy and lacked opportunities for two-way communication or hands-on activities.

"Some sessions were great, but a few were just talks. We need more activities to keep us involved."

"I wanted to ask more questions, but there wasn't enough time or encouragement to speak up."

Level 2: Learning

Assessment

Level 2 of the Kirkpatrick Model focuses on the extent to which participants acquire the intended knowledge, skills, and attitudes as a result of the training. From the qualitative responses of participants, three overarching themes emerged: Knowledge Acquisition, Skill Development, and Observed Learning Outcomes (Perceived Change). Each parent theme contains distinct subthemes supported by participant voices.

Parent Theme 1: Knowledge Acquisition

This theme captures how the training contributed to participants' conceptual understanding and cognitive learning.

(i) Significant Knowledge Gains

Many participants reported gaining a substantial amount of new knowledge, particularly in business management, digital marketing, and financial literacy.

"A lot of new knowledge was gained — everything was new and very helpful."

"Yes, the knowledge was very useful, especially about how to grow a small business."

"I've learned a lot, especially things I didn't know about financial planning."

(ii) Limited Understanding in Specific Areas

Despite overall positive feedback, a few participants indicated difficulty in understanding certain topics, such as budgeting or financial forecasting.

"I didn't really understand the content, especially related to budget planning."

"Some of the financial terms were confusing — maybe a simpler explanation would help."

Parent Theme 2: Skill Development

This theme relates to the development of practical and technical skills that participants can apply in their entrepreneurial activities.

(i) Acquisition of Useful and Relevant Skills

Most participants affirmed that they had gained practical skills, including smartphone-based marketing, business communication, and customer engagement.

"Yes, I learned a lot — now I know how to market using my phone."

"The skills were relevant and I was able to learn a lot."

"I got the skills I needed — from planning to marketing."

(ii) Desire for More Advanced or Practical Training

While many acknowledged acquiring skills, some felt that the training focused too much on basic concepts and lacked hands-on or advanced skill application.

"It was mostly just the basics. I needed more practical, advanced skills."

"The training gave me knowledge, but not enough real practice."

Parent Theme 3: Observed Learning Outcomes

This theme reflects how participants evaluated changes in their knowledge, skill set, and confidence after the training.

(i) Perceived Transformation in Knowledge and Skills

Participants commonly described significant changes in both their understanding and practical competencies, often noting improvements in self-confidence and business preparedness.

"There was a big change — I feel 70% more confident in my skills and knowledge."

"I can now build networks and do marketing better than before."

"I saw a lot of changes in how I manage my business and finances."

Areas for Improvement in Learning Outcomes

Despite generally positive learning experiences, participants highlighted specific areas that require enhancement. These suggestions are grouped into two overarching themes.

Parent Theme 1: Content Enhancement Needs

(i) Need for Advanced or Tiered Modules

Participants requested more in-depth or tiered training, especially those who already had prior exposure to basic content.

"For those who are already in business, the content should go beyond just the basics."

"We need modules that suit our current level — some parts were too elementary."

(ii) Simplification of Complex Topics

Some topics, particularly those related to financial management, were perceived as too technical and in need of clearer explanation or simplified delivery.

"The budget planning part was hard to understand — I wish they explained it more clearly."

Parent Theme 2: Instructional Design Improvements

(i) More Hands-on and Practical Exercises

Participants expressed a desire for more experiential learning and skill application opportunities, such as simulations or real business tasks.

"I would've liked more practical activities — just listening isn't enough."

"They should let us try things during training, like mock business pitching."

(ii) Continuous Learning and Follow-up Support

Several participants suggested having follow-up sessions or advanced modules after the initial training.

"One training session is not enough. We need ongoing support or advanced classes later."

Level 3: Behavior

Assessment

Level 3 of the Kirkpatrick Model assesses the degree to which participants apply the knowledge and skills acquired during training in real-life contexts. The findings revealed three overarching parent themes: Application Readiness, Behavioral Change and Business Improvement, and Confidence in Implementation. Each theme is supported by participant feedback that reflects their post-training behavior.

Parent Theme 1: Application Readiness

This theme reflects the timeframe and ease with which participants began applying the knowledge and skills they had acquired.

(i) Immediate Application

Many participants reported that they could apply the new knowledge and skills immediately, even during the training sessions. This suggests that the training content was both accessible and practical.

"I could apply what I learned right away, even during the training."

"It was immediately useful — I didn't have to wait."

(ii) Gradual Familiarization

While the majority applied their skills quickly, a few participants indicated that it took a few days to become confident and fully proficient.

"It took me about a week to get the hang of it, but now I'm comfortable applying it."

"I needed a bit of practice before I could use the new skills properly."

Parent Theme 2: Behavioral Change and Business Improvement

This theme captures the actual changes in participants' business activities and operations as a result of applying the training content.

(i) Improvement in Marketing and Financial Practices

Participants noted enhancements in their digital marketing efforts, financial management, and knowledge of transaction tools. For example, some expanded their platform usage from just Facebook and Instagram to TikTok, and others adopted more systematic financial practices.

"Before the training, I only knew how to use Facebook and Instagram. Now I also know how to use TikTok."

"I learned better ways to record transactions — it's more systematic now."

(ii) Product and Audience Growth

Several participants reported tangible growth in their businesses, such as an increase in the number of products offered or growth in social media followers.

"My product range expanded — now I offer two types of products."

"I now have over 1,000 followers on my page after applying what I learned."

(iii) Mixed Outcomes for Some Participants

Not all participants experienced immediate business growth; some reported no change in product offerings or sales, despite improved knowledge.

"My product line stayed the same, but I did learn better marketing techniques."

"No changes yet in the number of products, but I feel more equipped."

Parent Theme 3: Confidence in Implementation

This theme reflects the participants' self-reported confidence in applying what they learned in the training program.

(i) High Confidence in Application

Most participants expressed strong confidence in their ability to implement what they learned. They believed the knowledge and skills gained were directly usable and aligned with their needs.

"I'm very confident that I can apply everything I learned."

"The training made me feel capable and ready to take action."

(ii) Moderate Confidence Among a Few Participants

While the general trend was high confidence, a few participants expressed only moderate self-assurance and acknowledged the need for further practice or support.

"I'm moderately confident — I still need more experience."

"I understand the concepts, but I'm still not fully sure about applying them without help."

Areas for Improvement in Behavior Implementation

While the majority of participants reported positive behavioral changes following the training, several comments reveal areas where the application of knowledge and skills could be enhanced. These are grouped under two macro-level themes: Readiness and Depth of Practice, and Outcome Translation Barriers.

Parent Theme 1: Readiness and Depth of Practice

This theme reflects gaps in participants' ability to immediately and confidently implement their learning, highlighting the need for more **guided practice and time to internalize** the skills.

(i) Need for Extended Practice Time

A few participants required additional time to become proficient in applying what they learned. This indicates that while the content was accessible, deeper skill integration could benefit from structured reinforcement or extended post-training practice.

"It took about a week to master what I learned."

"I needed more time to fully apply the skills."

(ii) Gaps in Practical Reinforcement

Participants who expressed only moderate confidence suggest that some individuals may have benefited from more hands-on activities during training or follow-up support afterward.

"I'm moderately confident — I still need more experience to really apply the knowledge well."

"I understood the theory, but applying it in real business situations is still hard."

Parent Theme 2: Outcome Translation Barriers

This theme highlights the difficulty some participants had in converting their knowledge into **visible business improvements**, such as increased sales, product range, or customer base.

(i) No Observable Business Change

Despite learning new concepts and tools, some participants did not see immediate improvements in their business metrics, such as the number of products sold or new customers.

*"My product range stayed the same even after the training."
"I learned better marketing, but there's no real change in my business yet."*

(ii) Challenges in Scaling and Differentiating Business Impact

Some participants faced barriers in scaling their operations or customizing their business strategies after the training, pointing to a need for more personalized application support.

"Even with better marketing knowledge, I'm not sure how to expand my customer base."

Level 4: Results

Assessment

The final level of the Kirkpatrick Model focuses on the tangible outcomes resulting from the training, such as increased income, independence, social recognition, and ability to influence others. Analysis of participant responses revealed six major themes that reflect various dimensions of success.

Parent Theme 1: Economic Advancement

This theme captures improvements in participants' income and business performance following the training.

(i) Increase in Income

Most participants reported a rise in income, with some noting substantial improvements between 30% and 200%. This demonstrates that the training had a direct impact on their business profitability.

*"My income increased by 200% after I applied what I learned."
"There was a 70% increase in income — it really helped me grow."*

(ii) Varying Income Impact

Not all participants experienced immediate or dramatic changes. A few attributed slower income growth to external market factors such as competition.

"There hasn't been a significant increase yet due to high competition."

Parent Theme 2: Increased Self-Reliance

This theme represents the ability of participants to operate independently without relying heavily on others.

(i) Enhanced Independence

Many participants reported that they had become more self-reliant and less dependent on external support or family members.

*"I'm now fully independent — I've even expanded my customer base to Singapore."
"I no longer depend on others. I can manage my business network myself."*

(ii) Growing Confidence in Autonomy

Some participants described themselves as "in transition" toward full independence, expressing greater confidence to manage independently in the future.

"I'm more confident now and less reliant on others compared to before."

Parent Theme 3: Role Modeling and Influence

This theme reflects how participants see themselves as inspirational figures or sources of motivation for others.

(i) Confidence as Role Models

Participants widely expressed confidence in their ability to become motivators, trainers, or role models for other persons with disabilities (PWDs).

"I'm confident I can be a role model and share my experience."

"I've even been invited to give motivational talks in schools and communities."

(i) Desire to Inspire and Uplift Others

Several participants emphasized their readiness to support younger or less experienced PWDs, extending the training impact beyond themselves.

"I want to motivate others in similar situations and show them what's possible."

Parent Theme 4: Family and Community Contribution

This theme captures how participants were able to translate their success into contributions to family and community.

(i) Financial Support to Family

Many participants indicated that they were now able to provide for their families independently, including supporting siblings or reducing dependence on public assistance.

"I can support my family on my own — no longer need outside help."

"I'm helping my siblings now through my business income."

(ii) Limited Contribution in Some Cases

A few participants mentioned that while they could support themselves, they were not yet in a position to assist their families.

"For now, I can only support myself — not yet able to help my family."

Parent Theme 5: Social Acceptance and Recognition

This theme highlights how participants' families and communities responded to their achievements.

(i) Increased Family Pride and Trust

Many participants shared that their success led to greater recognition and confidence from family and peers.

"My family and friends are happy with my achievements."

"My wife and relatives now trust in my ability to succeed."

(ii) Mixed Reactions

In a few cases, participants reported that not all family members were yet fully convinced of their progress.

"Not everyone in my family believes in my capability yet, but I'm working on it."

Parent Theme 6: Customer Base Expansion

This theme reflects the extent to which training translated into market growth and increased customer engagement.

(i) Significant Customer Growth

Many participants experienced a noticeable rise in customer numbers, with some even struggling to meet demand.

"Customer numbers increased drastically — I even had to limit orders due to high demand."

"Through WhatsApp and Telegram, I've reached many new clients."

(ii) Moderate or No Growth for Some

A few participants reported limited success in attracting new customers, often linking this to content strategy or marketing approach.

"Customers increased, but my social media followers stayed the same."

"Still struggling to attract more customers — need to improve my content."

Areas for Improvement in Achieving Results

Despite the generally positive results, participants identified several areas where they felt their success could have been greater. These are grouped under two broader themes.

Parent Theme 1: Sustained Business Development Needs

(i) Limited Family Support or Recognition

Some participants indicated that social validation from their immediate networks remained mixed or lukewarm, which could impact their long-term motivation.

“Not all of my family members believe in me — I still have to prove myself.”

(ii) Financial Gains Not Fully Optimized

While income increases were noted, a few participants felt that they had not yet reached their full potential due to limited business scalability or lack of capital.

“Yes, my income increased, but I still can't expand because of financial constraints.”

Parent Theme 2: Strategic Business and Marketing Gaps

(i) Need for Advanced Customer Engagement Skills

Participants suggested that with stronger content creation or advanced marketing strategies, they could attract and retain more customers.

“I need better content strategies to pull in more customers — it's still a challenge.”

(ii) Difficulty Handling High Demand

Some participants faced operational issues in managing large customer volume, highlighting a gap in supply chain or capacity planning.

“I had to turn down orders because I couldn't keep up with the demand.”

Summary of Findings

The evaluation of the training program using the Kirkpatrick Model revealed positive outcomes across all four levels. At the **Reaction** level, participants expressed high satisfaction with the training's relevance, practicality, and empowerment potential, though some recommended improvements in accessibility, session interactivity, and trainer sensitivity. At the **Learning** level, participants reported significant gains in both knowledge and skills, particularly in digital marketing and financial management. However, suggestions included the need for tiered content delivery, simplified technical topics, and more hands-on learning.

In terms of **Behavior**, most participants demonstrated immediate application of skills, with observable changes in business practices. Yet, variations in confidence and outcome suggested the value of extended practice, post-training coaching, and follow-up sessions. At the **Results** level, participants experienced increased income, independence, and customer base, and many positioned themselves as role models within their communities. Nonetheless, some faced challenges in scaling, securing family support, or mastering advanced marketing strategies. Future programs should incorporate business incubation, mentorship, and modular support to enhance long-term impact and sustainability.

Discussion

This study aimed to evaluate the effectiveness of a training program for persons with disabilities (PWDs) using the Kirkpatrick Model. The discussion synthesizes the findings at each of the four levels—Reaction, Learning, Behavior, and Results—and interprets them in light of best practices, relevant literature, and the contextual needs of PWDs in Malaysia.

Reaction: Engagement and Perceived Relevance

Participants reported high satisfaction with the training program, highlighting enjoyment, relevance, and a sense of personal empowerment. These findings reflect the importance of learner-centered and socially engaging instructional designs. As Keller's ARCS model suggests, motivation in learning environments can be sustained through relevance, confidence, and satisfaction (Keller, 2010). Interactive formats, peer support, and content aligned with participants' entrepreneurial goals further enhanced training receptivity. However, concerns around accessibility, trainer sensitivity, and customization of training content point to areas for improvement. These align with global recommendations that stress the application of Universal Design for Learning (UDL) principles to meet the diverse needs of PWDs (Rose & Meyer, 2002).

Learning: Knowledge and Skills Acquisition

Findings at the Learning level show notable improvements in both knowledge and skills. Participants acquired entrepreneurial competencies, digital marketing techniques, and practical vocational abilities. This supports the importance of competency-based training approaches, where mastery precedes progression (Mulder, 2014). Variability in outcomes based on disability type, motivation, and prior exposure suggests a need for tiered or modular learning paths. Moreover, participants expressed a desire for advanced-level modules, particularly in areas like product scaling and social media strategy—indicating readiness for deeper learning experiences beyond the basics.

Behavior: Application and Confidence

Most participants reported immediate application of new skills in their businesses and daily routines. This supports the concept of transfer of training, where learned behaviors are effectively translated into performance improvements (Baldwin & Ford, 1988). Confidence in applying these skills was high, bolstered by structured, practical training and relevant content. Still, some participants noted the need for ongoing mentoring and technical support, affirming the role of post-training mentorship in sustaining behavior change, especially in evolving digital or entrepreneurial contexts.

Results: Long-Term Impact and Economic Independence

At the Results level, the training demonstrated meaningful outcomes: increased income, reduced dependency, enhanced self-image, and greater willingness to become role models. These outcomes confirm the transformative potential of inclusive training when properly designed and resourced (World Health Organization, 2022). Nevertheless, variations in outcomes—attributable to external factors such as family support or market conditions—underscore the importance of context-aware training evaluations. As such, follow-up assessments and tailored support mechanisms (e.g., micro-financing, digital incubation) are crucial to maintaining momentum.

Conclusion and Recommendations

This study affirms that well-structured, systematically evaluated training for persons with disabilities (PWDs) yields meaningful cognitive, behavioral, and socio-economic benefits. Using the Kirkpatrick Model enabled a four-level analysis of effectiveness. Participants reported satisfaction and skill gains, especially in digital marketing and entrepreneurship. Many applied their learning directly, improving business practices and independence.

However, outcomes were shaped by external factors like access to capital and digital literacy. Holistic, inclusive approaches are needed to position PWDs as empowered economic contributors.

To ensure sustainable impact, a multi-dimensional strategy is needed that emphasizes inclusivity, adaptability, and long-term support. First, training design should apply Universal Design for Learning (UDL), ensuring content is accessible in various formats including Braille, large print, and screen-reader friendly interfaces. A modular, tiered learning structure will allow participants at different competency levels to benefit meaningfully. Training should also incorporate problem-based learning, real-world business scenarios, and motivational frameworks like the ARCS Model to drive engagement and confidence.

In terms of delivery, flexible learning modes (face-to-face, online, and hybrid) should be offered to overcome geographical and mobility challenges. Post-training support—such as mentorship, coaching, and business clinics—must be embedded to ensure skill retention and real-world application. Additionally, training content should focus on high-demand, marketable skills including digital entrepreneurship, e-commerce, and content creation. Continuous feedback loops and Kirkpatrick-based evaluations should guide program refinement.

At the policy level, cross-sector collaboration is critical. Government agencies, NGOs, and training institutions must partner to enhance content relevance and job placement opportunities. To encourage participation, financial incentives such as training scholarships and business grants should be offered. Establishing inclusive training standards and accreditation systems will promote consistency and quality. Finally, investment in assistive technologies and embedding PWD-focused training in national workforce policies will ensure alignment with the Convention on the Rights of Persons with Disabilities (CRPD) and the UN Sustainable Development Goals. These recommendations lay the groundwork for a more inclusive, impactful, and empowering training ecosystem for PWDs in Malaysia and beyond.

Acknowledgement: This work was funded by the Quick-win Grant (R.J130000.7729.4J615), Research Management Centre, Universiti Teknologi Malaysia

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