

The Application of Learning Theories in Teaching Vocational Skills to Students with Special Needs in Secondary Schools: A Literature Review

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Abstract: *This article is a review that discusses the application of learning theories in the teaching strategies used by special education teachers who teach vocational skills subjects to students with special needs (MBK) in secondary schools. The review is conducted by analysing various past studies related to the use of learning theories, particularly behaviorism and constructivism in the context of special education. The review analysed 17 selected studies published between 2016 and 2025 retrieved from Scopus, ERIC, and Google Scholar. The main focus of this review is how learning theories such as behaviorism and constructivism are applied in teaching by special education teachers and their effectiveness in supporting the development of MBK. The analysis found that the combination of these theories contributes to better conceptual understanding, improved practical skills, and more active student participation in the learning process. Some of the effective strategies identified include the use of positive reinforcement (such as praise and token economies), real-world activities, and collaborative learning environments. The review also highlights several challenges in applying these theories, including the lack of professional training, limited resources, and insufficient practical understanding among teachers. However, these obstacles can be addressed through enhanced training and ongoing professional support. This article has implications for curriculum design, teacher professional development and the creation of more inclusive and effective learning environments in vocational special education.*

Keywords: Learning Theories, Special Education, Vocational Skills, Teaching Strategies, Students with Special Needs

1. Introduction

Special education is a dedicated educational program designed for students who require additional support in their learning. The goal of this program is to ensure that every student has equitable access to quality education (MOE, 2024). As such, vocational skills education in special education is specifically tailored for students with special needs (MBK). This refers to work-based training and learning aimed at equipping MBK with practical skills relevant to independent living and employability. According to Masitah Hayati (2015), fields such as cooking, sewing, carpentry, landscaping, and personal care have been identified as most suitable for MBK based on their abilities and interests. These skills not only help students master daily tasks but also provide opportunities to join the workforce after school.

The implementation of vocational teaching needs to be adapted to the abilities of MBK and should be planned based on effective learning theory principles to ensure active participation and continuous skill mastery. Thus, vocational skills education not only addresses the practical learning needs of MBK but also plays a vital role in shaping a more inclusive and productive future for this group.

To deliver effective teaching to MBK, special education teachers play a crucial role in planning, executing, and evaluating appropriate teaching strategies. This is because special education students have varying levels of ability and learning needs, as noted by Zainudin et al. (2017). Therefore, the teaching strategies employed by teachers must be flexible, practical, and grounded in suitable learning theories. Applying learning theories such as behaviorism, constructivism, and multiple intelligences helps teachers understand how MBK learn and guides them in planning simple and student-friendly instructional activities.

However, challenges in special education such as limited resources, inadequate teacher training, lack of technical skills among teachers, and the diverse ability levels of MBK make the teaching process complex (Amran et al., 2024). Therefore, it is essential to examine how special education teachers apply learning theories in their teaching strategies especially in teaching specific vocational subjects in secondary schools.

This article aims to discuss the application of learning theories in the teaching strategies of special education teachers, focusing on teaching approaches used in vocational subjects for MBK. By understanding the connection between learning theories and teaching practices this article hopes to contribute to improving the quality of teaching and learning in special education in Malaysia and serve as a practical guide for special education teachers.

2. Problem Statement

Special education in Malaysia has undergone significant transformation to provide inclusive and quality education for students with MBK. However, in the teaching of vocational skills, there are still several issues and challenges that impact the effectiveness of teaching and learning. One major problem is the lack of practical understanding of learning theories among special education teachers, particularly in relation to teaching strategies for MBK, who have highly diverse learning needs (Abol, 2024). Therefore, the absence of specialized professional training in vocational education for special education negatively affects teaching practices.

This gap between theoretical knowledge and classroom practice often results in ineffective teaching strategies, ultimately limiting MBK's achievement in vocational subjects. Although various learning theories such as behaviorism, constructivism, and multiple intelligences have been introduced during teacher training many special education teachers still struggle to apply these theories effectively in real classroom settings as noted by Derbala and Ruhizan (2022). This challenge becomes more pronounced when teachers are required to adapt their teaching approaches to meet the individual abilities of MBK particularly in vocational subjects that demand fine motor skills, communication, sustained attention, and consistent repetition.

According to Azhari et al. (2020), the lack of specific professional development related to vocational skills for special education further complicates the planning of appropriate teaching strategies. Most teachers receive general training without a strong focus on how to apply pedagogical theories in practical vocational contexts. As a result, some teachers adopt routine

or generalized teaching methods that do not fully address MBK's actual needs or effectively utilize learning theories to design impactful lessons.

Therefore, this review is conducted to examine how special education teachers in secondary schools apply learning theories in their teaching strategies, especially in the context of specific vocational subjects. This study is essential to identify gaps in knowledge and practice and to propose more systematic and effective pedagogical approaches that address the overall learning needs of MBK.

Despite the growing emphasis on inclusive vocational education, limited empirical synthesis has examined how learning theories are practically translated into vocational special education classrooms. Existing studies often discuss learning theories conceptually without critically analysing their integration within structured vocational curricula. This gap highlights the need for a focused review that synthesizes theoretical application and pedagogical practice in vocational special education.

3. Research Methodology

This study employed a qualitative literature review approach using document analysis. Relevant articles were systematically searched through electronic databases including Scopus, ERIC, and Google Scholar. The search covered publications from 2016 to 2025 using keywords such as *learning theories*, *behaviorism*, *constructivism*, *vocational skills*, *special education*, and *students with special needs*.

The inclusion criteria were:

- i. Empirical or conceptual studies focusing on the application of learning theories in special education
- ii. Studies related to vocational or skills-based education for students with special needs at the secondary level
- iii. Publications written in English or Malay

Articles that did not focus on vocational education or were unrelated to special education contexts were excluded. After applying the inclusion and exclusion criteria, a total of $n = 17$ articles were selected and analysed thematically to identify patterns in the application of behaviorist and constructivist approaches in vocational special education.

4. Literature Review

Learning theories play a crucial role in shaping effective teaching strategies, especially in special education. Selecting and applying the appropriate learning theory enables teachers to determine the best methods for delivering lesson content that aligns with the abilities and learning styles of students with MBK. Among the key theories commonly applied in special education are behaviorism, constructivism, and the theory of multiple intelligences.

4.1 Behaviorism Theory

The behaviorism theory developed by B.F. Skinner emphasize that learning is a change in behavior that occurs in response to external stimuli and reinforcement. In the teaching of vocational skills to MBK, this approach is suitable to be practiced through the use of repetitive activities, structured hands-on lessons and positive reinforcement techniques. According to

Yahaya and Ramli (2020), reinforcement strategies such as praise, token economy systems, and visual rewards have proven effective in enhancing the attention and performance of MBK in fundamental skills such as cooking and personal care. This shows that positive reinforcement can help establish and maintain desirable behaviors in MBK consistently.

Further support for the effectiveness of behaviorism is found in the study by Thilagarasi Subramaniam and Mohd Norazmi Nordin (2025), which showed that positive reinforcement, structured learning environments and behavior modification strategies significantly improved focus and reduced disruptive behaviors in students with ADHD. This demonstrates the importance of structure and rewards in shaping positive behaviors in special needs learners.

Additionally, Katman et al. (2016) emphasized that rewards such as praise and token economies not only boost student motivation and focus but also help foster a positive learning environment in special education classroom. Simple rewards like verbal praise or small gifts for correct answers can increase students' interest and engagement. When students struggle to respond, teachers are encouraged to provide step-by-step guidance to ensure they remain included and engaged in learning. Therefore, the behaviorist approach not only supports skill-based learning but also helps create a classroom environment that fosters students' emotional and social growth.

Overall, studies grounded in behaviorist principles consistently demonstrate improvements in task completion, behavioral regulation, and skill repetition among MBK. However, while reinforcement-based strategies are effective for structured skill acquisition, they may provide limited opportunities for higher-order thinking and autonomous problem-solving. This suggests the need to complement behaviorist strategies with approaches that promote active engagement and cognitive development.

4.2 Constructivism Theory

The constructivist theory pioneered by theorists such as Piaget and Vygotsky, emphasizes that learning is an active process in which learners construct knowledge based on their experiences, social interactions, and the surrounding environment. In the context of vocational education for MBK, this theory focus on an active student involvement through real-life tasks, hands-on use of tools, and collaborative learning environments that nurture self-awareness and independence.

A study by Norafizah Mustafa and Nursafra Mohd Zhaffar (2024) found that constructivist-based teaching strategies such as storytelling, brainstorming, role-playing, and demonstrations had a positive impact on MBK's comprehension in Islamic Studies. These strategies encourage student participation in discussions and the sharing of experiences, leading to deeper understanding of the content being taught.

Abol (2024) further highlighted the importance of teachers understanding MBK's learning styles in order to plan effective teaching strategies. Group work, hands-on exploration, and guided discussion allow students to construct knowledge in a more structured manner, according to their pace and capabilities. These principles align with constructivist beliefs, which see learning as a process of building meaning through experience.

In addition, Harun et al. (2024) emphasized that teachers who are flexible and creative in their teaching approaches often achieve better learning outcomes with MBK. The use of concrete

teaching materials, real-life activities, and enjoyable learning environments encourages students to explore and develop vocational skills in a more meaningful context.

In summary, the constructivist theory offers a strong foundation for helping MBK master vocational skills through engaging, interactive, and context-rich learning experiences. When strategies are adjusted accordingly, teachers can support students in actively building both understanding and practical abilities, while promoting independence and self-confidence.

5. Teaching Strategies in Vocational Special Education According to Learning Theories

Teaching vocational skills to students with MBK requires a more tailored approach, not only based on their academic needs but also based on learning theories that guide their behavior and achievements. In this context, behaviorism and constructivism are two main theories that can be applied to plan and implement more effective teaching strategies for MBK in vocational fields. The integration of both theories provides a more holistic pedagogical framework to maximize each student's potential and achieve meaningful learning outcomes.

Constructivist-based strategies emphasize meaningful engagement and social interaction, which are particularly important in vocational education contexts. Nevertheless, the effectiveness of constructivist approaches largely depends on teacher competence in scaffolding and classroom management. Without adequate training, implementation may become inconsistent. Therefore, structured guidance remains essential when applying constructivist methods in special education settings.

5.1 Teaching Strategies Based on Behaviorism Theory

Behaviorism theory, introduced by figures like B.F. Skinner, emphasizes that learning is a result of behavior changes that can be measured and controlled through stimuli and reinforcement. In vocational special education, several strategies based on this theory can be applied such as positive reinforcement where teachers give praise, token economies (e.g: star cards or stickers), or visual rewards to motivate MBK. For example, when a student successfully completes a cooking task or uses workshop tools correctly, they are given praise or a small reward. This is supported by a study by Katman et al. (2016) that shows providing rewards in the form of praise and token economies can increase motivation and focus among students in learning. This helps strengthen desired behaviors and encourages students to continue trying.

Repetition drills can also be used, where repeated activities in various vocational skills help MBK build perseverance and motor skills. For instance, repeated practice in cooking or organizing tools can help students master the tasks better. In addition, shaping is another strategy where students are gradually rewarded for each small effort towards a more complex skill. For example, in teaching room-cleaning skills, the teacher can reward the student once they manage to organize a table properly after a few practice sessions.

5.2 Teaching Strategies Based on Constructivism Theory

On the other hand, the constructivism theory, introduced by Jean Piaget and Lev Vygotsky, views learning as an active process where students build knowledge through personal experiences and social interactions. In vocational special education, some teaching strategies based on constructivism including project-based learning, is a very effective practice for MBK because it allows them to work in real-world situations. For example, students can be involved

in projects like building a wooden shelf, preparing a dish, or creating craft products. These activities allow students to learn in a more authentic way and build practical skills that are useful. In addition, students can work in groups and collaborate. This helps MBK interact with their classmates, encouraging social skills and group problem-solving. For example, in cooking or workshop tasks, students can work in small groups, help each other, and share tasks to achieve better results.

Next, contextual learning and real-world situations involve giving MBK the opportunity to learn in real environments related to their vocational skills. For example, allowing students to work in a real kitchen or workshop outside the classroom is an effective way to connect learning with real situations they may face in their future jobs. Finally, teachers can hold reflection and self-assessment sessions. This involves MBK evaluating their progress and giving feedback on the skills they have learned. Thus, gives them the chance to understand their achievements and identify areas for improvement while encouraging self-directed learning. This is also supported by Tee et al. (2019), who developed a model to encourage collaborative learning among students in line with the principles of constructivism that emphasize social interaction in learning.

5.3 Combining Teaching Strategies: Integrating Behaviorism and Constructivism Theories

In vocational special education, using a combination of both behaviorism and constructivism theories can contribute a bigger impact. In a study by Abol (2024) that explored teachers' understanding of learning styles and appropriate teaching techniques for students with special needs particularly in the Integrated Special Education Program (PPKI) class, it was found that combining behaviorism approaches such as positive reinforcement and constructivism approaches, such as project-based learning and collaborative work, can increase student involvement and achievement. Therefore, teachers can start sessions with behavior-based reinforcement strategies such as giving clear instructions and positive reinforcement. Then, teachers can integrate constructivist strategies by involving students in project-based learning or collaborative activities to build vocational skills in a more in-depth and effective way.

For example, in teaching cooking skills, teachers can guide students to follow certain steps (behaviorism) and then involve them in group work to prepare the dish together (constructivism), while giving them opportunities to discuss and reflect on their experience.

6. Conclusion

Efforts to improve the quality of special education particularly in teaching vocational skills to students with MBK require the effective use of appropriate learning theories. Behaviorism and constructivism, as two foundational approaches, offer complementary and relevant strategies to meet the diverse learning needs of MBK. Techniques such as positive reinforcement, repetition drills, and behavior shaping rooted in behaviorist theory help MBK develop fundamental skills consistently. At the same time, the constructivist approach promotes active student engagement through project-based learning, group collaboration and contextual learning that mirrors real-life situations.

However, critical challenges such as limited specialized professional training and difficulties in adapting teaching strategies to individual student abilities must be systematically addressed. Therefore, special education teachers must not only understand these learning theories but also

possess the ability to apply and integrate them through flexible and practical teaching methods. When learning theories are effectively implemented in vocational skills teaching, they can ultimately enhance the employability of students with special needs and support them in becoming independent, productive, and competitive members of the workforce.

In conclusion, this review demonstrates that the integration of behaviorist and constructivist approaches provides a balanced pedagogical framework for vocational special education. While behaviorism strengthens structured skill acquisition and behavioral consistency, constructivism enhances engagement, collaboration, and contextual understanding. Addressing existing challenges through continuous professional development and curriculum alignment is essential to ensure effective implementation. This article contributes meaningfully to strengthening theory-informed vocational teaching practices and supports the broader goal of enhancing employability and independent living outcomes among students with special needs in Malaysia.

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Conflict of Interest Statement

The authors declare that there is no conflict of interest regarding the publication of this study.

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