

EMPOWERING TAHFIZ STUDENTS THROUGH INTEGRATED LEARNING: AN IMPACT STUDY OF THE ASSETS 2025 PROGRAM

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ABSTRACT

The ASSETS (Academic and Skills Enhancement Through Strategic Training) 2025 program aimed to integrate academic and practical skills into the Tahfiz education framework, which traditionally focuses on Quranic memorization. Held over three days from 24 to 26 April 2025, the program involved 23 male students aged 10 to 18 from Maahad Riyadhil Quran (MRIQ). It featured modules in both academic subjects (English and Computer-Mathematics) and practical skills (speed reading, archery, culinary arts, and public speaking). Using a pre- and post-program survey, the results showed strong improvements in practical domains: speed reading (69.6%), archery (65.2%), and culinary arts (60.9%). Academic progress was also evident in English (65.2%) and Computer-Mathematics (60.9%), suggesting better engagement strategies compared to the previous year. The study affirms the ASSETS model's effectiveness in promoting holistic student development, though continued refinement is needed for long-term skill retention and diversified implementation across other Tahfiz centers.

Keywords: Education, STEM, Skill Enhancement, Tahfiz, MRIQ

Introduction

Tahfiz education in Malaysia has traditionally centered on Quranic memorization, often at the expense of integrating secular academic subjects and practical life skills. This narrow focus has resulted in students being less equipped for diverse career paths and real-world challenges beyond religious contexts. Numerous studies have emphasized the need to balance religious and secular education in Tahfiz institutions by incorporating academic and vocational components. For example, Norsalim et al. (2021) reported significant challenges in integrating vocational skills into the Tahfiz curriculum, citing financial limitations and the absence of a standardized framework. In a similar vein, Bani et al. (2017) emphasized the importance of expanding Tahfiz education to include practical skills, which are vital for students' overall development. Supporting this, Yahya et al. (2020) advocated for a well-rounded curriculum that incorporates co-curricular activities to enhance students' general competencies. Likewise, Taat et al. (2021) found that school climate and curriculum structure significantly affect students' academic attitudes, underscoring the benefit of a diversified curriculum.

In response to this educational gap, the ASSETS 2025 program was introduced to offer a more balanced curriculum that integrates both academic subjects and practical skills. This holistic approach is essential for fostering well-rounded student development. The study by Ishak et al. (2022) on the Huffaz ProHealth module highlights the importance of including physical, nutritional, and psychological health components in the curriculum, pointing to the need for a comprehensive educational model. Similarly, the Tahfiz Model Ulul Albab (TMUA), as outlined by Ambo and Mokhsein (2019), seeks to develop professionals who are proficient in both religious knowledge and the skills necessary for broader career success. However, despite these efforts, the effectiveness of programs like ASSETS has not been rigorously assessed. Evaluation is key to ensuring these initiatives meet their intended goals. For instance, Daud et al. (2018) emphasized the need to evaluate teaching methods in Tahfiz schools, particularly in mastering Tajwid. Norsalim et al. (2021) also stressed the importance of assessing vocational training efforts to identify and close gaps. This research therefore aims to evaluate the ASSETS program's impact on academic and practical skill development among students, with the goal of informing future improvements and ensuring long-term educational effectiveness.

Literature Review

Integrated educational programs that blend academic learning with practical skills are essential for cultivating individuals who are well-prepared for the demands of contemporary life. In Malaysia, the Tahfiz Model Ulul Albab (TMUA) serves as a notable example, combining Quranic memorization with secular education to produce students who are proficient in both religious and worldly knowledge (Jamil & Othman, 2023). The integration of practical skills into education is also emphasized by Ibrahim and Jaaffar (2017), who highlight the role of work-integrated learning in building students' competencies, self-efficacy, and employability.

Experiential learning theories, such as Kolb's model, support the use of hands-on activities to improve educational outcomes. This pedagogical approach has been applied effectively in the TMUA, where experiential learning is utilized in both religious and academic subjects to foster a more dynamic and meaningful learning experience (Ridyah & Sriyati, 2019). The broader implementation of experiential learning in Malaysia's vocational and technical education sectors has also demonstrated success in improving students' practical abilities and workforce readiness (Norsalim et al., 2021).

Given that Quranic memorization remains the core focus in Tahfiz schools, integrating academic and practical skills is crucial to better equip students for the multifaceted challenges of life. The TMUA curriculum represents a robust model of this integration, offering a holistic education by aligning

religious teachings with academic and practical subjects (Ambo & Mokhsein, 2019). Nonetheless, studies have also identified ongoing challenges in embedding vocational skills within Tahfiz education, pointing to the need for improved curriculum planning and better allocation of resources to support the development of these essential life skills (Norsalim et al., 2021).

Studies have shown that exposing students to a diverse set of skills—including those beyond their core academic focus—enhances their self-efficacy, adaptability, and preparedness for future challenges. In Malaysian educational contexts, research on the development of metacognitive skills in secondary schools reveals that incorporating various learning methods fosters improvements in both cognitive and non-cognitive abilities (Bakar & Ismail, 2020). Similarly, studies in vocational and technical education highlight the value of skill diversity in enhancing students' employability and flexibility across different job sectors (Aziz et al., 2020).

Programs that combine academic subjects such as computer skills, mathematics, and English proficiency with practical and physical activities like speed-reading, culinary arts, and archery have demonstrated positive outcomes in student development. In Malaysia, co-curricular programs structured to support this kind of dual enrichment have been found to simultaneously boost cognitive performance and physical well-being (Shaharane et al., 2021). Integrated learning models that merge cognitive and physical engagement further contribute to academic success and student well-being (Rashed & Tamuri, 2022).

Incorporating practical life skills like cooking and archery into the curriculum not only enriches students' learning experiences but also opens avenues for personal and economic growth. This is particularly significant in Tahfiz institutions, where vocational training is being increasingly adopted to support students' long-term financial independence. Despite challenges in implementation, integrating vocational elements has shown to enhance students' capacity for income generation and self-reliance (Norsalim et al., 2021). Promoting such skill diversification aligns with broader educational objectives aimed at developing well-rounded individuals capable of succeeding in a range of professional contexts (Ahmad & Iksan, 2023).

However, the success of such integrated educational programs largely depends on the quality of instruction and the relevance of the skills included. Research indicates that teacher preparedness and the alignment of curricular content with students' actual needs are key determinants of program effectiveness (Suriman & Tahar, 2018). Moreover, studies on curriculum integration stress that the selected skills—such as computer literacy, mathematics, English proficiency, speed-reading, culinary arts, and archery—must be relevant to the challenges students are likely to face in the future to ensure overall program success (Jamil & Othman, 2023).

Personalizing instructional methods to suit students' individual learning needs is also essential for improving outcomes, particularly in areas where students commonly struggle. In the Tahfiz education context, teaching strategies tailored to students' learning preferences have been shown to significantly enhance both academic performance and knowledge retention (Taat et al., 2021). Furthermore, integrating experiential learning with contextual teaching strategies—such as applying English and computer skills through real-world scenarios or embedding mathematics in archery or culinary exercises—has been found to increase student engagement and deepen understanding (Raub et al., 2015).

This study builds upon these insights by evaluating the ASSETS program's effectiveness in enhancing both academic and practical competencies among Tahfiz students—a demographic traditionally underrepresented in integrated education research.

Methodology

The Aiding in Sustainable Skills Empowerment & Transfer (ASSETS) program was organized by the Academy of Language Studies (APB) and English Language Society of UiTM Cawangan Pulau Pinang, in collaboration with Maahad Riyadhil Quran (MRIQ), and took place from 24 to 26 April 2025. It provided a structured three-day schedule from 6:00 AM to 9:00 PM, alternating between academic enrichment and skill-building workshops. Participants were male Tahfiz students aged 10 to 18. Activities included modules in computer mathematics, English proficiency, and skill-based sessions in archery, culinary arts, speed reading, and public speaking.

A quantitative research design was used, relying on matched pre- and post-program self-assessment surveys. Each student rated their own knowledge or skills across the six learning areas on a Likert scale ranging from “*Sangat Rendah*” (Very Low) to “*Sangat Tinggi*” (Very High). Skill development was evaluated based on the percentage of students whose post-program scores exceeded their pre-program levels.

A total of 23 male students from Maahad Riyadhil Quran (MRIQ) participated in the ASSETS 2025 program held from 24 to 26 April 2025. The participants were aged between 10 and 16 years, representing a typical cohort of Tahfiz students with diverse levels of prior exposure to academic and practical skills. The selection of an all-male group reflected the demographic composition of the partnering institution and ensured consistency in program delivery. All participants voluntarily completed both the pre- and post-program self-assessment surveys, which served as the primary data source for measuring perceived skill improvement.

Results

The data collected was analyzed to determine the extent of skill development across five core areas: Computer-Mathematics, Speed Reading, Archery, English Language, and Culinary Skills. Table 1 summarizes the self-reported improvement of each participant in these domains. Improvement was identified based on upward changes in skill ratings from pre- to post-program assessments using a five-point ordinal scale ranging from “*Sangat Rendah*” (Very Low) to “*Sangat Tinggi*” (Very High). The table offers an overview of individual growth, forming the basis for the detailed discussion that follows. Table 1 also presents the skill improvement profiles of participants in the ASSETS 2025 program. A total of 23 male students from Maahad Riyadhil Quran (MRIQ), aged between 10 and 18 years, participated in the three-day program held from 24 to 26 April 2025. The evaluation focused on five key areas: Computer-Mathematics, Speed Reading, Archery, English, and Culinary Skills. Pre- and post-program self-assessments were analyzed to determine changes in perceived skill levels.

Table 1. Profile of Participants

Participant (Age)	<i>Improvement post-program</i>				
	Computer-Mathematics	Speed Reading	Archery	English	Culinary Skills
Male A (11)	Yes	Yes	Yes	Yes	Yes
Male B (14)	No	No	No	No	No
Male C (10)	No	No	No	No	No
Male D (13)	Yes	Yes	Yes	Yes	Yes
Male E (14)	Yes	Yes	Yes	Yes	No
Male F (13)	Yes	Yes	Yes	Yes	Yes
Male G (14)	No	No	No	No	No
Male H (12)	No	No	No	No	No
Male I (17)	Yes	Yes	Yes	Yes	Yes
Male J (16)	Yes	Yes	Yes	Yes	Yes
Male K (16)	No	No	No	No	No
Male L (13)	No	Yes	Yes	No	Yes
Male M (18)	Yes	Yes	Yes	Yes	Yes
Male N (17)	No	No	No	No	No
Male O (17)	Yes	Yes	Yes	Yes	Yes
Male P (13)	No	Yes	No	Yes	No
Male Q (17)	Yes	Yes	Yes	Yes	Yes
Male R (13)	Yes	Yes	Yes	Yes	Yes
Male S (15)	Yes	Yes	Yes	Yes	Yes
Male T (17)	Yes	Yes	Yes	Yes	Yes
Male U (15)	No	No	No	No	No
Male V (17)	Yes	Yes	Yes	Yes	Yes
Male W (14)	Yes	Yes	Yes	Yes	Yes

In the area of Computer-Mathematics, 60.9% of the participants (14 out of 23) reported improvements. These students generally progressed from a pre-assessment rating of “*Sangat Rendah*” or “*Rendah*” to “*Sederhana*” or higher in the post-assessment. The remaining 9 participants did not

report improvement, suggesting the need for further intervention or differentiated instruction to address varied learning needs in this subject.

Speed Reading saw the highest rate of improvement among participants, with 69.6% (16 students) demonstrating positive change. Many students moved from lower-tier ratings such as "*Sangat Rendah*" or "*Rendah*" to more advanced levels, indicating the program's effectiveness in cultivating foundational reading techniques and cognitive processing speed. This suggests that the hands-on and engaging format of the speed-reading module resonated well with the Tahfiz students.

In Archery, 15 participants (65.2%) showed improvement post-program. This is consistent with the high level of enthusiasm observed during the physical activity sessions and highlights the alignment of traditional physical skills like, archery with the values and interests of the Tahfiz community. Participants who improved typically advanced from beginner to intermediate competency levels, showing stronger form, focus, and confidence by the end of the program.

The findings also indicate a substantial improvement in English language skills, with 65.2% of the participants showing positive changes in their self-assessed proficiency. This marks a significant increase compared to the 2024 cohort, suggesting that revised instructional strategies and interactive lesson designs may have enhanced engagement. Students moved from "*Sangat Rendah*" or "*Rendah*" levels to "*Sederhana*" or "*Tinggi*," though a minority of students still did not exhibit measurable gains, warranting continued refinement in pedagogical delivery.

Culinary Skills also showed encouraging outcomes, with 14 students (60.9%) reporting improved abilities following the program. The hands-on nature of this module allowed participants to actively engage in real-world culinary tasks, such as preparing basic dishes and managing kitchen hygiene. These experiences not only enriched their practical knowledge but also fostered a sense of independence and confidence in applying life skills beyond the religious classroom context.

Overall, the ASSETS 2025 program successfully facilitated multidimensional learning outcomes, with the majority of participants reporting growth in both academic and practical areas. The results underscore the effectiveness of a balanced educational model in Tahfiz settings, particularly when it incorporates interactive and experiential learning components.

Discussions

The ASSETS 2025 program demonstrated meaningful progress in equipping Tahfiz students with both academic and practical skills, based on improvements reported through pre- and post-program assessments. This integrated approach addresses the need for holistic student development, particularly

in traditionally Quran-focused education environments. Research has emphasized that the success of such programs is often influenced by factors like teacher readiness and curriculum alignment (Suriman & Tahar, 2018), as well as the relevance of the skills taught to students' real-world challenges (Jamil & Othman, 2023). The ASSETS 2025 outcomes affirm the potential of balanced and interactive modules in fostering both academic achievement and life competencies.

Academic Skill Development

The program recorded moderate yet promising improvements in academic skills, with 65.2% of students reporting progress in English and 60.9% in Computer-Mathematics. This reflects a modest increase compared to the previous year, indicating that enhancements in content delivery and interactive engagement strategies were effective. These findings align with the importance of metacognitive regulation in academic success (Bakar & Ismail, 2020) and support prior research emphasizing the need for tailored, subject-specific instructional approaches in areas where students commonly face difficulties (Rasid et al., 2020).

The disparity between English and Computer-Mathematics outcomes suggests the necessity for differentiated teaching strategies. While English instruction benefited from more communicative and contextualized learning, Mathematics instruction may require further refinement, particularly in scaffolding concepts and integrating problem-solving techniques. Higher-order thinking skills, which are essential in Mathematics, require educators to employ more nuanced pedagogy (Chandran et al., 2023), highlighting the importance of continuous training for teachers and adaptable curriculum design.

Practical Skill Development

The program was notably more effective in improving practical skills. Speed reading (69.6%), archery (65.2%), and culinary arts (60.9%) all recorded strong gains. These outcomes reaffirm the effectiveness of experiential and hands-on learning in fostering engagement and retention, particularly in non-academic domains. The physical and interactive nature of these modules aligns with findings from earlier studies emphasizing that active learning strategies significantly enhance self-efficacy and real-world skill application (Suriman & Tahar, 2018; Bakar & Ismail, 2020).

Practical modules like archery and culinary arts not only developed technical skills but also contributed to character building, discipline, and teamwork attributes critical for students' personal and professional growth. The results suggest that such modules should remain integral to future iterations of the program and could be further diversified to include digital literacy or entrepreneurship, in line with evolving societal needs.

Program Design Considerations

Although the results were largely positive, the mixed improvement levels across different domains underscore the need for refinement. Targeted interventions are necessary, particularly in Computer Mathematics, where some students continued to report difficulties. Future program designs should integrate differentiated instructional tools and real-time feedback mechanisms to better accommodate varied learning profiles (Fuad et al., 2020).

Furthermore, the hands-on modules' success highlights the value of maintaining a strong practical component. Longitudinal follow-ups could evaluate the retention and transferability of these skills, ensuring sustained impact. Additionally, expanding the participant pool and incorporating industry-aligned training would improve scalability and relevance.

Conclusion

Overall, participant feedback strongly supports the program's relevance and effectiveness, with near-unanimous agreement on its necessity, clarity, impact, and desire for continuity. This affirmation from the students suggests a readiness and appetite within the Tahfiz community for more integrative, skill-based education. The ASSETS 2025 program successfully demonstrated its value in enriching Tahfiz education through integrated skill-building and academic engagement. Improvements across both academic and practical domains indicate that the program design is sound and impactful. Students reported meaningful growth in skills such as speed reading, archery, English, and culinary arts, while also voicing enthusiasm for further involvement. The findings affirm the importance of balancing traditional Quranic studies with broader life skills and highlight the feasibility of implementing such models in similar settings.

For future iterations of the ASSETS program, several refinements can be made to enhance its reach and effectiveness. First, differentiated instructional strategies should be developed to better support participants with lower baseline proficiency, particularly in academic areas like Computer-Mathematics, and English. Incorporating more interactive, scaffolded learning tools and personalized feedback could help bridge these gaps. Additionally, expanding the program to include female participants and students from a wider range of Tahfiz institutions would improve the generalizability of findings and foster broader community impact. It is also recommended that future programs include longitudinal follow-up to assess the retention and real-life application of skills acquired. Finally, integrating industry-relevant modules—such as digital literacy, entrepreneurship, or health education—

would further align the program with contemporary societal and economic needs, ensuring that Tahfiz students are better equipped for diverse life pathways beyond their religious studies.

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Conflict of Interest Statement

The authors agree that this research was conducted in the absence of any self-benefits, commercial or financial conflicts and declare the absence of conflicting interests with the funders.

Authors' Contributions

Noor Azli Affendy Lee: Conceptualisation, methodology, formal analysis, investigation and writing-original draft, editing; **Nor Hanim Abd Rahman:** Conceptualisation, editing and validation.

References

- Ahmad, F. H. & Iksan, Z. H. (2023). Science teachers' perspectives on the integration of the Quran in science learning. *ISLĀMIYYĀT*, 45(1), 253 – 262. <https://doi.org/10.17576/islamiyyat-2023-4501-21>
- Ambo, N. F. & Mokhsein, S. E. (2019). Trend and issue in learning strategy of Tahfiz Model Ulul Albab (TMUA). *International Journal of Academic Research in Business and Social Sciences*, 9(7), 1418–1426. <http://dx.doi.org/10.6007/IJARBSS/v9-i7/6789>
- Aziz, R. A., Manaf, U. K. A., Ayub, A. F. M. & Jafri, N. binti. (2020). The relationship between teachers' knowledge and the implementation of project based learning at vocational college. *International Journal of Academic Research in Business and Social Sciences*, 10(6), 766–787. <http://dx.doi.org/10.6007/IJARBSS/v10-i6/7373>
- Bakar, M. A. A. & Ismail, N. (2020). Exploring students' metacognitive regulation skills and mathematics achievement in implementation of 21st century learning in Malaysia. *Problems of Education in the 21st Century*, 78(3), 314-327. <https://doi.org/10.33225/pec/20.78.314>
- Bani, H., Jaaffar, M. Y., Katan, M. & Noor, A. H. M. (2017). An overview of governance and accountability of tahfiz institutions in Malaysia: Religious councils perspective. *SHS Web of Conferences*, 36, 00028. <https://doi.org/10.1051/shsconf/20173600028>

- Chandran, T., Kamarudin, N., Mustakim, S. S., Silvarajan, L. & Zaremohzzabieh, Z. (2023). Factors influencing teaching higher-order thinking skills among Mathematics teachers in Malaysian primary schools. *Pertanika Journal of Social Science and Humanities*, 31(4), 1509-1524. <https://doi.org/10.47836/pjssh.31.4.09>
- Daud, Z., Saad, S. & Hussin, H. (2018). Tahap keberkesanan ilmu tajwid analisis terhadap sekolah tahfiz swasta di Selangor. *Journal of Quran Sunnah Education & Special Needs*, 2, 24-35. <https://doi.org/10.33102/jqss.vol0no0.23>
- Fuad, N. S. A., Abdullah, N. & Rahman, S. B. A. (2020). The teaching of Science and Mathematics in English in Malaysia: Teachers' views on the implementation of two national initiatives. *Environment-Behaviour Proceedings Journal*, 5(SI3), 211–216. <https://doi.org/10.21834/ebpj.v5iSI3.2554>.
- Ibrahim, H. I. & Jaaffar, A. H. (2017). Investigating Post-work Integrated Learning (WIL) effects on motivation for learning: An empirical evidence from Malaysian public universities. *International Journal of Business and Society*, 18(1), 13-32. <https://doi.org/10.33736/ijbs.487.2017>
- Ishak, I., Rahim, N. N. A., Salim, N. I., Husaini, C. U. N. S. T, Jamaludin, I.; Khalid, H. M., Lutfi, N. A. A., ... & Rozali, W. N. A. C. W. M. (2022). Development and validation of Huffaz ProHealth 1.0©: A module to improve the well-being of tahfiz students in Selangor, Malaysia. *International Journal of Environmental Research and Public Health*, 19(13), 7718. <https://doi.org/10.3390/ijerph19137718>
- Jamil, S. R. & Othman, M. K. (2023). Assessment and recommendations on the implementation of Tahfiz Integrated Curriculum (KBT). *International Journal of Modern Education*, 5(17), 455-466. doi: 10.35631/IJMOE.517035
- Norsalim, P. M. N., Akbarruddin, M. N. A., Basir, N. S. A., Muda, W. H. N. W., & Jeinie, M. H. (2021). Challenges in establishing vocational skills in tahfiz curriculum at Malaysian tahfiz centre. *International Journal of Academic Research in Business and Social Sciences*, 11(16), 53–62. <http://dx.doi.org/10.6007/IJARBS/v11-i16/11217>
- Rashed, Z. N. & Tamuri, A. H. (2022). integrated curriculum model in Islamic Education Curriculum. *International Journal of Academic Research in Business and Social Sciences*, 12(7), 214 – 223. <http://dx.doi.org/10.6007/IJARBS/v12-i7/14249>
- Rasid, N. S. M., Nasir, N. A. M., Singh, P. & Han, C. T. (2020). STEM integration: factors affecting effective instructional practices in teaching Mathematics. *Asian Journal of University Education (AJUE)*, 16(1), 47-60. <https://doi.org/10.24191/ajue.v16i1.8984>
- Raub, L. A., Shukor, N. A., Arshad, M. Y. & Rosli, M. S. (2015). An integrated model to implement contextual learning with virtual learning environment for promoting higher order thinking skills in Malaysian secondary schools. *International Education Studies*, 8(13), 41-46. <http://dx.doi.org/10.5539/ies.v8n13p41>
- Ridyah, S. W. & Sriyati, S. (2016). Pembelajaran IPA terpadu dengan Tipe Connected dengan Model Experiential Learning untuk meningkatkan keterampilan proses sains siswa SMP. *EDUSAINS*, 8(2), 122-127. <https://doi.org/10.15408/es.v8i2.1802>
- Shaharane, I. N. M., Jamil, M. J., Abdullah, H. & Taib, A. (2021). Keberkesanan penerapan kemahiran insaniah melalui aktiviti kokurikulum berkredit di kalangan mahasiswa. *International Journal of Education, Psychology and Counseling*, 6(44), 30-37. doi: 10.35631/IJEPC.644003
- Suriman, S. & Tahar, M. M. (2018). Teacher readiness towards the offer of Malaysian skills certificate in special education integration programme in secondary schools. *Journal of ICSAR*, 2(1).

<http://dx.doi.org/10.17977/um005v2i12018p001>

- Taat, M. S., Talip, R. & Mosin, M. (2021). The influence of curriculum and school climate on the academic attitude of tahfiz students in Malaysia. *International Journal of Evaluation and Research in Education (IJERE)*, 10(3), 807-815. <http://doi.org/10.11591/ijere.v10i3.21275>
- Yahya, M. A., Noor, A. Y. M., Ibrahim, M., Kamarzaman, M. H., Khairuddin, W. H. & Ahmad, S. (2020). Tahfiz learning and public speaking empowerment using hadith of al-Qasas al-Nabawi at tahfiz institutions in Malaysia. *International Journal of Business and Social Science*, 11(6), 141-146. doi:10.30845/ijbss.v11n6p13