

Empowering Future Talent: Students' Perceptions and Satisfaction Towards Upskilling Programs at Politeknik Balik Pulau

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Abstract

The consistently emerging trends in different sectors more often than not push new graduates to the edge due to the disparity between the classroom concepts and the real-world applications. To bridge that gap, PBU has devised a plan that incorporates additional learning through daily living by implementing the IBM SkillsBuild ecosystem, a self-paced course library sponsored by the industry. Past research has already shown that organized upskilling enhances learners' self-efficacy and employability. This study utilized the quantitative survey approach and relied on a pre-defined questionnaire featuring closed-ended questions crafted to gauge the level of satisfaction, mastery of relevant skills, and skills' relevance to the industry. Two hundred final year students from the 2024 cohort were approached and 170 fully answered the survey. To analyze the data, the descriptive statistics and Pearson correlation analysis were applied. The results indicate substantial student satisfaction, particularly concerning the technical skills competencies in the students' field, soft skills, including effective communication and collaboration, and a strong feeling that instruction is relevant to contemporary technology. Thus, the findings suggest that polytechnic education is strengthened by corporate in-house, industry-sponsored, and polytechnic education-integrated training, which is a polytechnic model and a clear advantage for students in classroom and employment interviews. The study further recommends that PBU implement SkillsBuild in all courses and expand employer engagement to maximize the impact for students throughout the country.

Key Words: *Upskilling programs, IBM SkillsBuild, TVET Malaysia, digital learning.*

1.0 Introduction

Today's digital-first economy makes the leap from classroom to workplace far harder for graduates of technical and vocational institutions. Employers repeatedly cite a skills mismatch: students may hold formal certificates yet lack the agility, digital know-how, and everyday professionalism required on the job. Ministry of Higher Education Malaysia data (MOHE, 2022) highlights the issue, revealing that more than 40 percent of polytechnic graduates spend six months or longer looking for work. In light of these delays, urgent reform of the TVET system is needed to balance industry-focused training with the broader personal attributes—clarity of communication, adaptability, and resilience—that employers value.

To close the clear skills gap in the local job market, Politeknik Balik Pulau (PBU) rolled out a structured upskilling plan that centres on the IBM SkillsBuild platform, a widely respected digital programme built in partnership with industry. Rather than standing apart like most co-curricular modules, SkillsBuild now appears in every student's timetable as a weekly, self-paced obligation. By logging in, learners choose from more than 1,000 bite-sized courses and certification paths covering cloud tech, cybersecurity, design thinking, and clear workplace communication, all of which speak directly to new demands from employers. With this system, PBU claims the distinction of being one of Malaysia's first polytechnics to weave digital upskilling into the core academic schedule for the whole college at once.

The move squares with Malaysia's Industry4WRD policy and the MyDIGITAL blueprint, both of which stress training a workforce ready for IR 4.0 with core abilities such as data literacy, computational thinking, and digital teamwork (MITI, 2018; EPU, 2021). Because the modern workplace has changed so fast, old vocational teaching alone no longer meets hiring plates, which now expect graduates who are technically sound yet also flexible, quick to solve problems, and eager to innovate. New kinds of knowledge—AI awareness, cross-disciplinary

reasoning, and ethical tech practice-highlight the need for a fresh and wider definition of what TVET students must carry into their careers (UNESCO-UNEVOC, 2022).

Recent studies by Chimezie, Taneh, and Igulu (2025) show that blended upskilling programs done in partnership with industry yield better learning results when universities weave them into their regular systems. In the same vein, Yusoff et al. (2025) note that student satisfaction climbs when digital tools feel relevant and closely tied to future jobs. Baharuddin, Rahim, and Iqbal (2025) add that education looking ahead under Malaysia's Community Education 5.0 model should also build technical know-how alongside soft skills such as leadership, emotional awareness, and a habit of lifelong learning.

Even so, most existing research on digital upskilling in Malaysian polytechnics has been limited to small-scale pilots, optional modules, or isolated case studies. There is a notable lack of comprehensive studies that examine student satisfaction and perceptions when upskilling programs are implemented at the full-cohort level across an entire institution. This gap makes it difficult to assess the broader impact and scalability of such initiatives within the national TVET landscape.

This study responds directly to that void by focusing on Cohort 1, the first graduating class of 2024 from Politeknik Balik Pulau (PBU), which experienced the IBM SkillsBuild initiative as a compulsory, institution-wide program. It investigates students' satisfaction levels and perceived benefits, particularly in areas such as technical skills development, soft skills enhancement, classroom engagement, and job readiness. The findings aim to inform educators, policy-makers, and industry partners on how large-scale digital upskilling initiatives can be effectively integrated into Malaysia's TVET reform agenda.

2.0 Literature Review

The rapid move toward a technology-driven economy has intensified worries about how ready graduates are, especially those trained in technical and vocational education and training (TVET). A major hurdle for a smooth transition into jobs is the ongoing skills mismatch, in which what students learn at school does not match the changing demands of employers. In Malaysia, the Ministry of Higher Education (MOHE, 2022) notes that more than 40 per cent of polytechnic graduates struggle to find work because they lack strong communication, digital know-how, and adaptability.

Upskilling has begun to be seen as a practical way forward. It includes clear learning routes-such as micro-credentials, digital badges, and short online courses-built to boost both hard and soft skills so that they reflect what the market wants (Lim et al., 2021). Within Malaysia, TVET colleges are increasingly teaming up with companies to roll out upskilling modules that sit alongside, or even replace, traditional course content. A well-known case is IBM SkillsBuild, a worldwide platform that supplies tailored, self-paced lessons linked to job roles in areas like cybersecurity, artificial intelligence, and general career growth (IBM, 2023). Politeknik Balik Pulau (PBU) is among the first institutions to embrace SkillsBuild, weaving its lessons into students' weekly timetables from 2022.

Recent studies confirm that digital learning platforms influence student experiences more than previously assumed. For instance, Yusoff et al. (2025) tracked Malaysian university learners using AI-based applications and concluded that users adopt such tools mainly because they feel the apps work well and match their needs. In a similar vein, Ahyan et al. (2024) investigated welding trainees at vocational colleges and found that formal online lessons boosted confidence and craft quality, even though students still lacked ample shop-floor practice. Taken together, these reports strengthen the idea that purpose-built digital resources

woven into courses can raise graduates' chances in the job market. Industry-focused upskilling, however, matters most when students actually enjoy the process. Parasuraman et al. (1988) explained that satisfaction stems from relevant content, smooth delivery, and clear benefits. Supporting this, Tien (2022) showed that TVET learners who rate an online module highly are much more likely to seek further skills and extra certificates.

Despite the rising popularity of learning platforms such as IBM SkillsBuild, empirical research on full-cohort, curriculum-integrated deployments within Malaysian polytechnics remains scarce. To address this gap, the present study concentrates on Cohort 1, the inaugural graduating group of Politeknik Brunei (PBU) that completed the SkillsBuild programme as an embedded component of its syllabus. The investigation examines how this integration shapes students' perceptions of improvements in technical abilities and soft skills, as well as their overall satisfaction with learning, thereby offering practical insights for institutional refinement and wider policy formulation.

2.1 Skills Mismatch and the Role of Upskilling in Bridging Employability Gaps

Today, simply having a diploma or degree no longer guarantees a new graduate a solid job. In Malaysia-and many other places-the technical and vocational training system faces a stubborn problem: what learners are taught rarely matches the skills factories and offices actually need. The Ministry of Higher Education Malaysia (MOHE, 2022) reports that over 40 percent of polytechnic alumni land a job later than planned because they lack good communication, flexibility, digital know-how, or task-specific know-how. These empty spots shake a graduate's self-belief and, in the larger picture, hold back the nation's economy and its ability to invent.

In response to this growing concern, upskilling has begun to be seen as a practical way forward. The clearest answer so far is upskilling, the practice of building on what someone already knows rather than starting from scratch. Upskilling can take many forms-short workshops, bite-sized micro-credentials, badges from outside companies, or easy-to-access classes on a phone. Under the country's TVET Empowerment Agenda, schools are asked to weave such modules into lessons about IR 4.0 tech, green jobs, and lifelong learning (Lim et al., 2021). Research by Md Rami et.al (2024) as well as by Ibrahim and Iqbal (2024) shows that when programs are tuned to local needs, students arrive at internships and full-time roles with far greater confidence and competence.

Building on these practical initiatives, the success of any training program goes beyond simply what is taught-it hinges on whether students feel satisfied, see real value in the lessons, and stay engaged throughout. Tien (2022) shows that people rate an upskilling course high when it is well-designed, easy to access, and clearly improves career readiness, all of which matter a lot in polytechnic schools where hands-on practice rules.

To maximise this potential impact because technology keeps moving at breakneck speed, TVET colleges now feel urgent pressure to turn out graduates who are not only skilled in current tools but also flexible enough to work with whatever comes next. New waves of tech like artificial intelligence, blockchain, and the Internet of Things are already remaking whole industries, so the know-how learned in class often grows stale before the diploma is framed. Chimezie, Taneh, and Igulu (2025) warn that the shelf life of technical knowledge keeps shrinking, meaning today's lessons can lose value in just a few years unless schools weave ongoing upskilling into every student's journey.

This trend shows up strongest in IT and digital fields, where skills change quickly and new jobs often mix multiple specialties (Yusoff et al., 2025). Now, companies want graduates who know the basics and can also move between tools, solve problems on the spot, and teach

themselves the next big tech. In this setup, bite-sized courses on platforms like IBM SkillsBuild help learners build that quick-acting confidence and flexibility. Such platforms serve fresh, industry-approved lessons so students can keep pace with fast-moving tech (IBM, 2023).

Big groups like OECD (2021) and UNESCO-UNEVOC (2022) agree that job seekers of the future need deep tech know-how plus skills they can carry from role to role. The World Economic Forum (2020) even predicts that by 2025 half of all workers will have to retrain, especially those inside new-tech posts. Supporting this view, Malaysia's Industry4WRD plan pushes TVET reform to make lifelong learning and upskilling national goals (MITI, 2018).

Put together, these studies show that schools, especially TVET colleges feeding tech industries, must build clear upskilling plans into every lesson. By giving learners courses that match current industry needs and tweaking them regularly, polytechnics can close the gap between dusty syllabuses and fast-moving job demands, keeping their graduates market-ready and ahead of change.

2.2 IBM SkillsBuild as an Industry-Aligned Digital Learning Intervention

IBM SkillsBuild stands out as one of the largest and most widely respected platforms for upskilling in digital and emerging technologies; it is a free, cloud-based system that supplies brief, structured courses, digital badges, and career-focused learning tracks in fields including cybersecurity, cloud computing, design thinking, data analytics, and essential soft skills. Used in more than 160 countries, the platform was created in close partnership with industry leaders to match its content with current job market needs (IBM, 2023). Its modular, self-paced model, gamified progress tools, and verifiable credentials make IBM SkillsBuild especially suited to TVET learners who seek flexible, stackable pathways for skill development.

Politeknik Balik Pulau (PBU) ranks among Malaysia's earliest users of IBM's SkillsBuild and is especially known for the way it wove the platform into institutional life. Instead of treating digital upskilling as an optional club, PBU scheduled SkillsBuild as a compulsory, self-paced class that all learners in Cohort 1 2024 must attend. Throughout their diploma programme, these students logged in weekly, completed selected modules, and collected digital badges that now fill the career portfolios they will present at graduation. By placing upskilling at the centre of the timetable, PBU turns a trendy add-on into standard practice, showing other Malaysian technical-vocational colleges how they might prepare graduates for a digital economy.

Research backs up this model. Yusoff et al. (2025) report high satisfaction among students using the AI platform, citing the relevance of content, ease of self-directed study, and a stronger sense of career readiness. Ahyang et al. (2024) found that learners in a similar structured, competency-based scheme performed better and felt more confident in practical tests. These local results echo larger reviews by OECD (2021) and UNESCO-UNEVOC (2022), which show that micro-courses aligned with industry standards boost not only technical skills but also lifelong learning habits and employability.

IBM SkillsBuild sits squarely across key tenets in Malaysia's Industry4WRD agenda and the MyDIGITAL blueprint, covering future-ready digital know-how, green skills, and ethical AI literacy (MITI, 2018; EPU, 2021). By embedding the platform into its academic framework, Pusat Belia Universiti (PBU) shows how public-private partnerships can speed up IR 4.0 competencies for TVET students. The digital badges issued through SkillsBuild link directly to industry standards and can be highlighted on professional networks like LinkedIn, giving learners a noticeable edge in a market that increasingly values verified credentials.

Despite the platform's global reach and strong promise, research inside Malaysian polytechnics remains scarce, leaving student satisfaction, perceived learning gains, and overall effectiveness largely uncharted when SkillsBuild is woven into formal curricula. Most existing studies concentrate on brief workshops or pilot schemes and, therefore, overlook the challenges and benefits of rolling such tools out across entire institutions.

This study thus seeks to fill that gap by exploring how learners from PBU's Cohort 1 view the IBM SkillsBuild platform in terms of effectiveness, content relevance, ease of use, and overall satisfaction. By concentrating on an entire graduating cohort, the research offers a clearer picture of whether such digital upskilling programs can be scaled and sustained. The findings, therefore, provide evidence-based recommendations that aim to guide the nationwide adoption of industry-linked online training in Malaysia's TVET sector, bolstering the country's standing in the global skills arena.

3.0 Methodology

This research adopted a quantitative approach, relying on a descriptive survey to gauge students' views and satisfaction with the IBM SkillsBuild upskilling initiative. Because the method is structured, the researchers were able to run straightforward statistics on the replies and map out trends, connections, and overall satisfaction among participating learners. The sample included 200 students from Cohort 1, the pioneer graduating class of 2024 at Politeknik Balik Pulau, who undertook the programme as a weekly, compulsory part of their timetable. By purposely selecting those who had finished both their diploma and the associated modules, the team ensured that only fully engaged learners were surveyed. Ultimately, 170 completed questionnaires were returned, producing an 85 percent response rate, a figure that meets the usual benchmark for studies conducted at the institution.

The research team designed and administered a structured questionnaire to collect the necessary data. The tool was divided into several parts, with Section B devoted to students' perceptions and overall satisfaction. This part used a five-point Likert scale (1 = Strongly Disagree; 5 = Strongly Agree) and examined six key areas: grasp of upskilling ideas, gains in technical and soft skills, confidence and academic readiness, relevance of content to current technology, accessibility and quality of training, and overall satisfaction. To confirm the instrument's validity and relevance, experienced lecturers and industry professionals in digital learning and TVET reviewed each item. The survey was then pilot-tested with a small student group to check for clarity and ease of use. Internal consistency was evaluated with Cronbach's Alpha, which returned a coefficient greater than .85, showing the items measure the same construct reliably.

The research team sent the questionnaire through Google Forms, gathering answers online from May to September 2024. Participation was voluntary; before taking part, each respondent learned about the study's purpose and received assurances that all answers would remain anonymous and confidential. Responses were then analyzed in SPSS: descriptive statistics-mean and standard deviation-summarized main trends, while Pearson correlation tests explored how the study variables related to one another, especially satisfaction and perceived skill growth. Findings appear in tables and are discussed in light of the project's goals and the wider rollout of IBM SkillsBuild at PBU.

4.0 Finding and Discussion

This study looked at how students at Politeknik Balik Pulau felt about the IBM SkillsBuild upskilling programme. Feedback from 170 graduates of Cohort 1, the first group to take the course during normal class hours, indicated a high level of satisfaction.

Table 1: Descriptive Statistics of Key Indicator

Indicator	Mean (M)	Standard Deviation (SD)	Interpretation
Content Relevant to Trends	4.52	0.49	Highest rated area
Improved Soft Skills	4.51	0.50	High rating
Training Accessibility	4.50	0.48	High rating
Overall Satisfaction	4.49	0.50	Strong agreement
Improved Technical Skills	4.44	0.54	Very positive
Increased Confidence	4.43	0.55	Very positive
Boosted Academic Performance	4.39	0.57	Moderately strong

Simple statistics showed the learners gave top marks in every area we measured. The strongest average ratings fell under Content Relevant to Trends ($M = 4.52$, $SD = 0.49$), Improved Soft Skills ($M = 4.51$, $SD = 0.50$), Training Accessibility ($M = 4.50$, $SD = 0.48$), and Overall Satisfaction ($M = 4.49$, $SD = 0.50$). Taken together, these scores suggest the students believe the programme arrived at the right moment, was taught well, and matched what today's employers need.

Students rated Improved Technical Skills (4.44, SD 0.54) and Increased Confidence (4.43, SD 0.55) quite highly, so the upskilling modules clearly boosted both know-how and belief in their ability to handle real-world tasks. The mean for Boosted Academic Performance was a shade lower (4.39, SD 0.57) yet still in the strong-agreement zone, hinting that learners see the program mainly as career prep rather than a direct route to higher grades.

Table 1: Pearson Correlation Results Between Key Variables and Overall Satisfaction

Indicator	r-value	p-value	Result
Content Relevant to Trends	0.83	< 0.01	Significant
Training Quality	0.82	< 0.01	Significant
Improved Technical Skills	0.82	< 0.01	Significant
Understanding of Upskilling	0.80	< 0.01	Significant
Improved Soft Skills , Confidence	0.79	< 0.01	Significant

Correlation analysis added another layer of understanding. Overall Satisfaction correlated strongly with Content Relevant to Trends (r 0.83), Training Quality (r 0.82), Improved Technical Skills (r 0.82), and Understanding of the Upskilling Concept (r 0.80). Together, these scores suggest that how pleased students feel hinges on how relevant, clear, and well delivered the experience is. A solid link between Improved Soft Skills and Increased Confidence (r 0.79) further underlines how personal growth feeds learner self-assurance.

These findings align well with what other researchers have already observed. For instance, Yusoff et al. (2025) noted that students engaged more on AI-supported platforms when the material felt relevant and the results clear. In the same vein, Ahyan et al. (2024) showed that a well-organized upskilling program boosted both the technical skills and confidence of vocational learners. Our results also echo Tiens (2022) claim that satisfaction in online courses hinges on ease of use, meaningful content, and visible progress. At PBU, making IBM SkillsBuild a required part of the curriculum likely played a key role, giving students steady practice and a sense of obligation. Although the findings are solid, we must remember they rest on what students say about their own experiences. Future work should pair these surveys with

interviews, long-term tracking, or employment data from graduates so we can see the full impact of upskilling.

These results show that students feel good about the upskilling program, and what they say matters for how the school should move forward. Clear links between overall happiness and areas such as useful content, solid tech know-how, and an easy-to-navigate platform mean those features must come first in any future revision. In practice, teachers could weave modules that use up-to-date industry software and allow learners to explore at their own pace into many different classes. The data also points to the need for staff training so that instructors treat platforms like IBM SkillsBuild as a core, goal-oriented part of the course rather than an add-on. Taken together, these lessons can help PBU create upskilling pathways that are large in reach yet sound in teaching design.

5.0 Conclusion

This study set out to examine students' perceptions and satisfaction with the IBM SkillsBuild upskilling programme delivered at Politeknik Balik Pulau. Drawing on replies from 170 graduates of Cohort 1, the first group required to undertake the course as part of their diploma- results indicate that learners found the initiative highly relevant, easy to access, and effective for developing both technical know-how and soft skills. Consistently high scores in areas such as content relevance, skill enhancement and confidence building verify that participants not only gained academic advantages but also left the programme feeling better equipped to face workplace demands.

Strong links between overall satisfaction and variables such as content quality, delivery method and platform usability imply that online upskilling works best when digital materials are clearly mapped to industry standards. The research further reveals that growth in soft skills- often sidelined in technical studies- received among the highest ratings, underlining the value of comprehensive, industry-driven learning pathways.

Looking forward, three strategic pathways are proposed. First, IBM SkillsBuild must continue to be woven into PBU's programmes and even pushed further, giving every student the same chance to log on and take part. Second, a similar upskilling blueprint should be rolled out in other Malaysian polytechnics that train learners for digital and technical jobs. Finally, any future reviews need to track jobs over the years and listen to employers so that the real-world effects- and the programs lasting perks- can be proved.

In short, the gains from IBM SkillsBuild at Politeknik Balik Pulau show just how vital upskilling is in today's TVET system. By pairing on-demand online lessons with steady support from staff, PBU has built a repeatable, high-impact model that helps answer the national push to bridge skill gaps and shield Malaysia's graduates against tomorrow's changes.

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