# ESL Primary Pupils' Acceptance of the Flipped Classroom Model Based on Technology Acceptance Model (TAM) and its Impact on Writing Skills

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**Abstract**
The flipped classroom concept has gained popularity in various educational settings by inverting traditional teaching methods enabling students to participate in active learning beyond the classroom. This research investigates the effectiveness of the flipped classroom technique in improving pupils' writing skills. The study used a quantitative research methodology to analyse pupils' writing performance in a flipped classroom environment. A total of thirty pupils between the age of 10 and 11 years old were chosen to participate in the research.  The participants consist of 16 girls and 14 boys. A thirty-item questionnaire that was based on prior research and relevant literature was the basis for the questionnaires that were created. This study used a five-level Likert item in its questionnaire: Strongly disagree, Disagree, Neither agree nor disagree, Agree, and Strongly Agree. The results demonstrate that the flipped classroom methodology enhances students' writing abilities. The research promotes the extensive adoption of the flipped classroom model in writing instruction, determining it to be a viable and efficacious educational approach for enhancing writing abilities. Additional research is advised to investigate the long-term consequences and its relevance across various educational contexts and levels.
**Keywords:** Flipped Classroom, Quantitative Research, Effectiveness, Writing Skill, Writing Performance

**Introduction**
        English plays a significant role in enhancing communication, economic competitiveness, and global integration (Arif et al., 2020), and thus English is a compulsory subject offered in Malaysian schools and institutions of higher learning. According to the National Education Blueprint 2013–2025, of strategic importance is the area of English proficiency and with the aim of improving proficiency facilitated by changes in curricula, training for teachers and localised infrastructure. Towards this end, Malaysia has adopted the

Common European Framework of Reference for Languages (CEFR) as a standard for best practice to ensure commonality in respect of standards. It also paves the way for agreement between education providers and employers, facilitating consistent learning outcomes across multiple countries. Moreover, CEFR supports multilingual education which will help produce a globally competitive Malaysian workforce. These initiatives have been effective, but Malaysian students, especially young learners are still struggling to master English level even most concern is writing (Azizah, 2009). Writing is a difficult skill involving the process of critical thinking, generating ideas, and constructing sentences (Premmilah et al., 2017). Implementation of flipped classroom model increases effectiveness of learning and increases students' motivation level to learn actively (Lewis, Chen, & Relan, 2018). Using these concepts along with "Flipped classroom model" where the students involved the learning at the most. This model encourages students to engage in collaborative learning and critical thinking.

There are different definitions of flipped classroom in literature. According to Bishop and Verleger (2013) a flipped classroom is: A student-centric teaching approach with two components: In-class interactive learning activities & out-of-class, direct access to unit of instruction, typically through a pc. It is a pedagogic method that Mull (2012) defines as preparing students for the class via the utilization of videos, podcasts and reading articles. Specifically, this strategy provides knowledge to students through videos and vodcasts, which is compounded with discussions, group activities and applications within subject, ultimately achieving much more efficient courses (Milman, 2012). It gives the students the chance to share what they have learned with their classmates (Michel, Cater III, & Varela, 2009) The flipped classroom model which provides instructional content outside the classroom and uses the classroom for interactive learning has emerged as an effective strategy to cope with these challenges.

According to the Malaysian Education Blueprint (MEB) 2013–2025: A World-Class Education for All Malaysians, English proficiency is regarded as the important 21st century skill that students will learn in order to compete globally (Ministry of Education, 2013). Of the four main language skills—listening, speaking, reading, and writing—in particular, writing is considered to be the most difficult for ESL students to learn (Din et al., 2021). Despite six years of primary schooling and five years of secondary schooling, many Malaysian students show low writing competency which affects their overall proficiency in English language (Suhaimi et al., 2019; Tan & Wan, 2019). Studies show traditional methods of teaching writing, including rote memorisation, drills and copying model essays, do not meet the needs of students and do not promote independent writing (Yuk et al., 2019; Tan & Wan, 2019).

In addition, teachers overuse tools such as mind maps without integrating more interactive digital resources through which more enjoyable writing lessons can be prepared (Arif et al., 2020). Moreover, intense school schedules and the vast range of student proficiency in ESL classrooms make it challenging for teachers to deliver personalized instructions and give ample practice (Liong & Yunus, 2019). Innovative pedagogical practices are further limited by various factors, including cultural differences as well as strict curriculum requirements (Tan & Wan, 2019). Emphasizing the need for intensified teaching strategies, current ESL writing practices continue to leave more advanced ESL learners behind, as students are expected to develop adequate English writing skills without increased attention to teaching (Otte, 2012).

This study aims to tackle these issues through the application of new teaching methodologies, specifically the flipped classroom model that has proven to have important benefits. As among numerous countries flipped classroom is burgeoning (Khaled, 2019), many researchers are investigating about teachers' and students' perceptions and attitudes of this model. The purpose of this study is to evaluate the acceptance of the flipped classroom method among English as Second Language (ESL) primary students in Selangau, by utilizing the Technology Acceptance Model (TAM) framework to investigate any factors that affect the adoption of the flipped classroom and its influence on the writing skills. This descriptive action research was to enhance the ESL (English as a Second Language) students writing proficiency in Selangau district. The primary objective of this research seeks to assess the level of acceptance of the flipped classroom method among ESL students in Selangau, utilizing the Technology Acceptance Model (TAM) to analyze factors influencing their adoption and use of this educational approach. Through this objective, the research will provide insights into both the pedagogical outcomes and the practical acceptance of the flipped classroom model within this specific educational context. The research question looks at the acceptance of the flipped classroom method among ESL primary students in Selangau according to the Technology Acceptance Model (TAM) and how does it affect their writing skill? Such objective and question will help one assess and realise both the efficiency and effectiveness of the flipped classroom in ESL education. These results will shed light on potential solutions for teachers and administrators looking to enhance English writing skills in similar settings.

## Literature Review

Writing is an important skill for ESL students in Malaysia, as it contributes to academic, professional, and personal advancement. Yet it is one of the hardest skills to acquire (Cole & Feng, 2015). Through writing, students uncover their thoughts and feelings and begin to grow emotionally. An innovative way to improve writing skills is the flipped classroom model. In flipped, time is restructured — it is a classroom approach. But in traditional way teaching of subject takes the least amount of course time (Bergmann & Sams, 2012). The implementation of flipped classroom model which uses a teaching method as an alternative to traditional learning environments has attracted the interest of tutors and researchers (Johnston, 2017). Students engage with resources, including videos and readings, prior to class; classroom minutes are then used for interactive exercises such as discussions and problem-solving. In this way, it becomes a shifting paradigm from teacher-centred to student-centred, encouraging active learning (Chen et al., 2018).

Information and communication technology (ICT), an important part of today's globalized society affecting virtually all areas of life (Gnambs, 2021). Integration is another factor that improves learning through better quality of instruction and through motivation (Akram et al., 2021). On the other hand, when it comes to interaction with their students, some teachers like face-to-face classes (Sahito et al., 2022).Writing instruction that emphasises the theory and practice of writing is useful in allowing students to learn elements of vocabulary, grammar, coherence, and revision (Lim, Yunus, & Embri, 2017). By using the ICT tools, this model offers a dynamic and engaging learning environment that tackles the challenges of writing teaching and learning for ESL learners.

*TAM Model*

One framework commonly used to study technology adoption is the Technology Acceptance Model (TAM) proposed by Davis in 1989. It is based on the Theory of Reasoned Action (TRA) proposed by Ajzen and Fishbein (1980), which associates "behavioral intention" with both "attitudes" and "subjective norms". TAM has emerged as a leading explanatory framework for research in the information systems domain (Gefen & Straub, 2000; Venkatesh & Davis, 2000; Wang et al., 2003). TAM considers four components of IT acceptance: perceived usefulness (PU), perceived ease of use (PEOU), attitude toward using (ATU), and behavioral intention to use (BI). PU is examined to determine if students perceive the method as advantageous to their learning experience, while PEOU is to assess how effortlessly students can manoeuvre their way around the requisite technological tools. ATU signifies their general attitude towards flipped classrooms, and BI their intention to keep using it. A TAM-based questionnaire addressing students' acceptance of the flipped classroom, will help teachers to best understand the factors influencing acceptance of the flipped classroom. Learnings from this assessment will help us improve implementation, leading to better results on the ground and increased satisfaction among students.

*Past Studies*

Writing is such a vital skill in both academia and work, and so teachers have turned to new instructional strategies. Such a method is the flip classroom approach, which reverses traditional education. Students watch instructional videos or do readings at home, and use time inside the classroom for interactive work. Emerging in the early 2000s, this model promotes active learning, individualized instruction, and increased dialogue between students and faculty members (Bergmann & Sams, 2012; Hung, 2015; Lockwood & Folse, 2014). Flipped classroom literature: The data show improved student performance across different disciplines: For instance, literature draws attention to its benefits in relation to academic success (Day & Foley, 2006; Deslauriers & Wieman, 2011; Hung, 2015; McLaughlin et al. In addition, Soltanpour and Valizadeh (2018) showed that speaking writing classes helped Iranian EFL students learn how to write effective essays than traditional ways. Additionally, Palvia et al. (2018) emphasized that students in flipped or online learning environments have developed independent study skills, adopted diversity, work successfully in teams, and collaborate effectively. The flipped classroom allows for more interactive and learner-oriented teaching process, which is more effective means for teaching the writing skills.
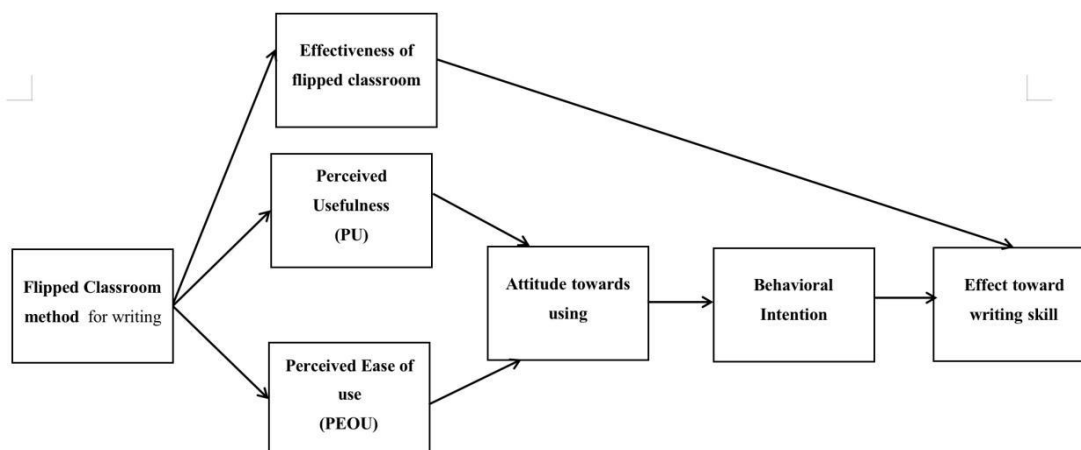
*Conceptual framework*



Figure 1 showed the Conceptual Framework of technology acceptance model (TAM)

## Methodology
### Research Design

A quantitative method research design is used in this study. Six steps characterize action research (AR)—identifying a research issue, planning, collecting data, analyzing it, evaluating results, and sharing findings (Richards & Farrell, 2005; Arksey & O'Malley, 2005)—and it supports teacher professional development. One of them will assess students' writing skills by using the flipped classroom method. To assess students' opinions we collected data using a questionnaire of 30 items based on previous studies (Khanova et al., 2015; Newman et al., 2016; Afrilyasanti et al., 2016; Nouri, 2016). Responses were made on a five-level Likert scale in its questionnaire: Strongly disagree, Disagree, Neither agree nor disagree, Agree, and Strongly Agree.

### Research Instruments

The data was collected using questionnaires employing a quantitative research design (Wang & Wu, 2020). According to Creswell (2012), survey research serves to recognize the patterns and trends of the data that is collected. Questionnaires enable researchers to parse and examine responses, leading to insights, thus making it an appropriate tool to utilize to meet the study objectives.

### Research Participants/Population & Sample

This study was conducted in the rural school in Selangau district, Sarawak. Convenience sampling is a useful technique that allows researchers to choose samples that are easily available or accessible, according to Golzar et al. (2022). A total of thirty between the age of 10 and 11 years old pupils were chosen to participate in the present study. The participants consist of 16 girls and 14 boys.

### Research Instruments

This study adopts a quantitative design to evaluate the effectiveness of the flipped classroom model on students' writing skills. A 30-item questionnaire, adapted from previous works (Newman et al., 2016; Afrilyasanti et al., 2016; Nouri, 2016; Khanova et al., 2015), with a five-point Likert scale was employed. It encompasses parts for demographic information

(gender, study year) and students opinions on flipped classrooms. The gathered data was examined using Statistical Package for the Social Sciences (SPSS) software. Descriptive statistics were applied to analyse data, emphasising on mean, frequency, and percentage. The data was compiled in the results section.

*Research Procedures*

The research took place in Selangau, a district in the state of Sarawak. There were 30 respondents comprised of Year 4 and Year 5 from a school in the Selangau district. The researcher administered questionnaire to the respondents in order to obter new information about respondents perception of increasing their writing ability with the used of the flipped classroom approach.

*Validity and Reliability*

The questionnaire used in the study was sent to the expert for validation. Her feedback ensured that the instrument was measuring intended constructs (e.g. students writing skills and engagement). That early test was an important refining factor, making the questions more clear and to the point, which ultimately improved the overall validity of the research. Cronbach's Alpha value for this study is 0.756, N of items = 30. This value reflects an acceptable level of internal consistency. The fact that items are homogeneously correlating with one another in a consistent manner indicates that indeed the 30 items in the instruments are capturing the same underlying construct, which is most likely an effective measure of whatever underlying factor (students' writing skills, attitudes, etc. depending on what the instrument is supposed to measures).

**Findings**

*Demographic Background*

This study consist of 30 participants who were Year 4 and Year 5 students from a rural school in Sarawak's Selangau area provided data to the researchers.

Table 1
*Distribution of Respondents' Gender*

| Gender | Frequency | Percent |
|--------|-----------|---------|
| Female | 16 | 53.3 |
| Male | 14 | 46.7 |

Approximately 46.7% of the sample consists of females, while 53.3% identifies as male, indicating a mild gender bias in data.

*Students Acceptance towards the Flipped Classroom Method*
Table 2
*Students Acceptance towards the Flipped Classroom Method*

| | STUDENTS ACCEPTANCE TOWARDS THE FLIPPED CLASSROOM METHOD | SD | D | NA/ D | A | SA | Mean |
|---|---|---|---|---|---|---|---|
| 1 | With flipped classroom model, I feel more prepared for my exam especially in email writing. | 0 (0%) | 0 (0%) | 0 (0%) | 19 (63.3%) | 11 (36.7%) | 3.97 |
| 2 | I like watching the lessons on video. | 0 (0%) | 0 (0%) | 5 (16.7%) | 19 (63.3%) | 6 (20%) | 3.63 |
| 3 | I try to learn as much as possible while watching the videos. | 0 (0%) | 0 (0%) | 0 (0%) | 5 (16.7%) | 25 (83.3%) | 3.90 |
| 4 | I wish more instructors use the flipped or inverted classroom model. | 0 (0%) | 0 (0%) | 1 (3.3%) | 11 (36.7%) | 18 (60%) | 3.70 |
| 5 | Flipped classroom encourages me to practice critical and creative thinking. | 0 (0%) | 0 (0%) | 1 (3.3%) | 13 (43.3%) | 16 (53.3%) | 3.80 |
| 6 | Flipped classroom gives me the opportunity to ask more questions inside the classroom. | 0 (0%) | 0 (0%) | 1 (3.3%) | 11 (36.7%) | 18 (60%) | 4.23 |
| 7 | Flipped classroom attracts my attention to learning and teaching process of writing an email. | 0 (0%) | 0 (0%) | 1 (3.3%) | 17 (56.7%) | 12 (40%) | 4.00 |
| 8 | With flipped classroom, we have to do more work out of the classroom. | 0 (0%) | 0 (0%) | 0 (0%) | 14 (46.7% | 16 (53.3%) | 4.43 |
| 9 | Flipped classroom can be a suitable teaching strategy for teaching email writing. | 0 (0%) | 0 (0%) | 5 (16.6%) | 17 (56.7%) | 8 (26.7%) | 4.43 |
| 10 | Flipped classroom can improve interest in exploring topics. | 0 (0%) | 0 (0%) | 2 (6.7%) | 16 (53.3%) | 12 (40%) | 4.57 |
| 11 | I felt prepared to complete course tasks in class after listening to the video content. | 0 (0%) | 0 (0%) | 2 (6.7%) | 16 (53.3%) | 12 (40%) | 4.60 |
| 12 | Flipped classroom is more engaging than the traditional classroom. | 0 (0%) | 0 (0%) | 1 (3.3%) | 18 (60%) | 11 (36.7%) | 4.13 |
| 13 | Flipped classroom gives me less class time to practice the concepts of course. | 0 (0%) | 0 (0%) | 1 (3.3%) | 13 (43.3%) | 16 (53.3%) | 4.47 |
| 14 | Flipped classroom reduces the effort to understand the basic knowledge of the subject matter. | 0 (0%) | 0 (0%) | 1 (3.3%) | 13 (43.4%) | 16 (53.3%) | 4.47 |

| 15 | I am more motivated to learn the concepts of course via the flipped classroom. | 0 (0%) | 0 (0%) | 0 (0%) | 18 (60%) | 12 (40%) | 4.23 |
|----|----|----|----|----|----|----|----|
| 16 | Flipped classroom improved collaborative learning. | 0 (0%) | 0 (0%) | 0 (0%) | 12 (40%) | 18 (60%) | 4.57 |

These data indicate that students clearly accept the flipped classroom model. 63.3% of students agreed, and 36.7% strongly agreed that it makes them feel more prepared for exams when sending email messages, among other things. The model is also viewed as more engaging compared to traditional methods with 36.7% strongly agreeing, 60% agreeing, and only 3.3% uncertain. 83.3% of the students prefer video classes, and 96.7% of them keep watching and listening to the video classes in order to learn. Notably, 96.6% felt this methodology promotes critical thinking; while agreement and strong agreement for creativity and collaborative learning climbed to 100%, indicating a marked increase in engagement. All students (100%) recognized the increased amount of individual work and practice they would have to do at home, and 93.3% felt well-prepared for in-class activities after watching the videos. The model also generates interest in research on topics (93.3%) and in particular, being acknowledged as an effective way for learning practical abilities like sending emails (83.4%). (iii) Finally, 100% of students liked having more opportunities to ask questions in class, showing the positive effect of the method on learning and interaction.

*Enhancing Writing Skill through Flipped Classroom*
Table 3
*Enhancing Writing skill through Flipped Classroom*

| ENHANCING WRITING SKILL THROUGH FLIPPED CLASSROOM | SD | D | NA/ D | A | SA | Mean |
|---|---|---|---|---|---|---|
| 17 I feel that watching videos and taking notes contribute efficiently to my learning (email writing). | 0 (0%) | 0 (0%) | 1 (3.3%) | 15 (50%) | 14 (46.7%) | 4.47 |
| 18 I frequently pause or repeat parts of the videos in order to increase my understanding of the material. | 0 (0%) | 0 (0%) | 1 (3.3%) | 13 (43.3%) | 16 (53.3%) | 4.27 |
| 19 Learning foundational content prior to class greatly enhances my understanding of material. | 0 (0%) | 0 (0%) | 0 (0%) | 13 (43.3%) | 17 (56.7%) | 4.40 |
| 20 Flipped classroom, along with delivery of content outside class and problem solving in class, is an instructional method appropriate for my specialization. | 0 (0%) | 0 (0%) | 0 (0%) | 15 (50%) | 15 (50%) | 4.33 |
| 21 Flipped classroom can improve interest in class especially in email writing lesson. | 0 (0%) | 0 (0%) | 0 (0%) | 13 (43.3%) | 17 (56.7%) | 4.33 |
| 22 I got the ability to self-pace my learning with flipped courses. | 0 (0%) | 0 (0%) | 0 (0%) | 13 (43.3%) | 17 (56.7%) | 4.20 |
| 23 Flipped classroom gives me greater opportunities to communicate with other students. | 0 (0%) | 0 (0%) | 0 (0%) | 11 (36.7%) | 19 (63.3%) | 3.93 |
| 24 I believe that I am able to learn material with flipped classroom instruction better than with traditional lecture-based instruction. | 0 (0%) | 0 (0%) | 0 (0%) | 14 (46.7%) | 16 (53.3%) | 4.13 |
| 25 I would recommend flipped classroom to a friend. | 0 (0%) | 0 (0%) | 0 (0%) | 10 (33.3%) | 20 (66.7%) | 4.37 |
| 26 Flipped classroom matches my learning style. | 0 (0%) | 0 (0%) | 0 (0%) | 10 (33.3%) | 20 (66.7%) | 4.30 |
| 27 I feel that mastering learning through flipped classroom improved my academic achievement. | 0 (0%) | 0 (0%) | 0 (0%) | 13 (43.7%) | 17 (56.3%) | 3.97 |
| 28 Flipped courses did not limit my interaction with instructors. | 0 (0%) | 0 (0%) | 0 (0%) | 14 (46.7%) | 16 (53.3%) | 4.27 |
| 29 I feel that mastering learning through flipped classroom improved my course understanding | 0 (0%) | 0 (0%) | 0 (0%) | 16 (53.3%) | 14 (46.7%) | 4.10 |
| 30 Flipped classroom learning has reduced my dependency on the instructor. | 0 (0%) | 0 (0%) | 0 (0%) | 11 (36.7%) | 19 (63.3%) | 4.20 |

Results showed students had a very positive experience with the flipped classroom model. Almost all students (96.7%, n = 29) reported video watching and note-taking as the most effective methods for their learning, especially for tasks like writing to the email. Most (96.6%, n = 29) had also actively revisited the videos, pausing or replaying the material, exemplifying independent study skills. Among the 30 students, all strongly agreed that the pre-class foundations they learned were very beneficial to their overall learning process. Moreover, 50% of a subgroup of 15 students showed high levels of interest in the application of the flipped classroom to their own specializations, supporting its interdisciplinary relevance.

The flipped classroom also inspired more students to actively participate in lessons — all of the 30 students agreed that flipped learning improved the level of lesson participation and made them more flexible {2} by allowing them to learn at their own pace, such as sending emails to their peers. The flexibility reported by the flipped classroom instructors as a significant advantage of the flipped classroom was also perceived as a strength by the majority of attendees (56.7%, n = 17) strongly agreed, along with others who agreed. (a) Peer interaction: 100% (n = 30) endorsed enhanced interactions with their peers. All students said they learned better in the flipped classroom than in the lecture environment and would suggest the method to others. In addition, all 30 students reported that the flipped classroom was a good match for their learning styles and led to improved academic performance. The examples and guidelines prepared through flipped learning left a direct impact on this features of student's attitude, they were able to confirm that they become less dependent on teachers. Overall, the flipped classroom technique can be an excellent method to promote student learning and autonomy while increasing knowledge and interest in writing classes.

**Discussion**
Earlier studies emphasize teachers' and students' attitude regarding the use of flipped classroom strategies. The findings of the studies indicate that most of the teachers in most of the past studies have reported favorable feedback on the implementation of flipped classroom. (Ansori & Nafi, 2018; Dweikat & Raba, 2019; Gough et al., 2018; Mahali, 2019; Yang, 2017; Yang & Chen, 2020). Flipped Classroom helped in reducing time constraint which may affect the quality of teaching and learning ( Yang & Chen, 2020) and developed learners' accountability towards their learning and bolstered their self-directed learning skills. Moreover, students reported that the flipped classroom model had allowed them to learn at their own pace and had given them a more flexible approach to their learning (Alghasab 2020; Fauzan & Ngabut 2018).

This study shows how well the flipped classroom works for teaching writing and especially for ESL students, Anxiously awaiting instruction, students approached the classroom ready to engage and turn lessons into more productive and useful experiences after previewing videos and audio created by the teacher used either in class or at home during an introduction to students. These findings align with Alghasab (2020) and Fauzan & Ngabut (2018) which claim of the flipped classroom's ability to cater to individual learning. Benefits of the Flipped Classroom Students rated the Perceived Usefulness (PU) of the flipped classroom as being on the derived application of writing in real-world circumstances, such as draughting emails, with students saying that lessons "like that" were significantly more engaging (Akram et al., 2021a; Chen et al., 2018). Employing PEOU, supported by easy digital

tools and detailed pre-class materials, further enhanced recommendations and favourable attitudes regarding learning. The social support they received from their teachers, peers, and parents also contributed to their motivation and confidence, indicating the value of a supportive learning environment (Melor & Chen, 2019). This is in line with studies that mention ICT as a vehicle to promote 21st-century skills such as digital literacy, creativity and communication (Gnambs, 2021).

**Conclusion**

Overall, the flip made learning fun, creating a challenge that combined theory and industry practice. The outcomes highlight its ability to drive authentic, student-led learning opportunities that lead to improved results and long-term skills retention.

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