The International Review of Multidisciplinary Research
Volume 1, Issue 8, June 2026, pp. 244-251
https://doi.org/10.67167/vertex.612

Curriculum Alignment with Industry Needs and Student Motivation in Industrial Technology Programs: A Regression Analysis

[1]Mark Harvin R. Cortez, [2]Jaycile C. Pascua, [3]Roderick I. Zante, [4]Elcris G. Ramos
[134]Aurora State College of Technology, [2]Lual National High School
[1]markharvincortez@ascot.edu.ph, [2]pascuajaycile1400@gmail.com, [3]rickzante@ascot.edu.ph
[4]elcrisramos@ascot.edu.ph

Article Details:

Received: 2 June 2026
Revised: 8 June 2026
Accepted: 16 June 2026
Published: 30 June 2026
Corresponding Email:
janicealejado83@gmail.com

Recommended Citation:

Cortez, M. H. R. 1, Pascua, J. C., Zante, R. I., Ramos, E. G. (2026). Curriculum Alignment with Industry Needs and Student Motivation in Industrial Technology Programs: A Regression Analysis. The International Review of Multidisciplinary Research. 1 (8), 244-251. https://doi.org/10.67167/vertex.612

Index Terms:

curriculum alignment, student motivation, industrial technology education, industry demands, experiential learning, job readiness, industry-based learning, technical and vocational education and training (TVET), higher education, Philippines

Abstract. The study examined how Industrial Technology students at the Aurora State College of Technology (ASCOT) in the Philippines were motivated by curriculum alignment with industry demands. Its primary aim was to determine whether aligning educational programs with actual industry needs enhances students' learning commitment, engagement, and participation. Using a structured questionnaire, the study employed a quantitative-correlational research design and collected data from Industrial Technology students across multiple year levels. Regression analysis was used to determine the extent to which curriculum alignment predicts student motivation. The results revealed an R^2 value of 0.943, indicating a strong positive relationship between the two variables. This suggests that a large proportion of the variation in student motivation is explained by the degree of curriculum alignment with industry standards. Consequently, the null hypotheses were rejected, supporting the conclusion that curriculum alignment is a significant predictor of student motivation. Furthermore, the findings showed that students who understand the relevance of their coursework to future employment tend to demonstrate higher levels of motivation, interest, and academic engagement. Integrating practical activities, industry-based learning, and real-world applications helps students remain focused, confident, and driven toward their academic and career goals. Based on these results, the study recommends strengthening experiential learning opportunities, encouraging active and self-directed learning approaches, and enhancing collaboration between ASCOT and industry partners. Aligning the Industrial Technology curriculum with industry demands not only increases student motivation but also contributes to producing competent, confident, and job-ready graduates who are prepared to meet the evolving needs of the labor market.

Introduction

By means of industrial technology courses, academic institutions aim to impart core career skills. Still, the large difference between what students learn in their classes and what companies want makes it more difficult for them to secure employment once they graduate, which further reduces their passion for continuous learning. Graduates must establish this link if they wish to be competent and driven to succeed in their employment. Student motivation is among the major factors driving learning results, perseverance, and general academic performance. Driven students often excel in technical assignments, group projects, and build the self-assurance necessary for a job. Generally, students who understand that their studies meet real industry needs appreciate their education more deeply and become more motivated to succeed. As a consequence, this alignment may boost student motivation and straight improve employment.

Although curriculum alignment and student motivation are equally important, few studies have looked at their direct and predictive relationship—especially in the context of Industrial Technology programs. Although existing literature frequently addresses these topics independently, it rarely combines the two, much of the current research either

concentrates on motivational theory or on curriculum development. Moreover, local data on how curriculum matches industry needs affects student motivation in Philippine university settings has to be presented.

Titled "Curriculum Alignment with Industry Needs and Student Motivation in Industrial Technology Programs: A Regression Analysis," this study tackles these gaps by examining the connection between student motivation and curriculum alignment. Employing regression analysis, the research measures how curriculum relevance forecasts and improves student engagement and motivation. The results are intended to assist curriculum designers, teachers, and legislators in developing programs meant to motivate and empower pupils as well as satisfy industry norms. to succeed both academically and professionally.

Statement of the Problem

Industrial technology courses get students ready for technical and professional jobs. Still, what is taught in classrooms still differs significantly from what companies really need. Students' motivation, involvement, and readiness for the workplace can all suffer from this misalignment. Students' enthusiasm and desire to study usually decline when they view their studies as unrelated from actual job needs. This study aims to ascertain whether aligning the Industrial Technology curriculum with industry needs can significantly impact students' learning motivation. The study seeks to ascertain how closely a curriculum is connected to true insights that might support enhanced course design and increased student drive and motivation. Assurance and certainty let graduates start their careers prepared and totally engaged.

Specifically, this study seeks to answer the following questions:

- How do students perceive the alignment of the Industrial Technology curriculum with industry needs?
- What is the level of student motivation among Industrial Technology students?
- Is there a significant relationship between curriculum alignment and student motivation?
- Which dimensions of curriculum alignment best predict student motivation?

Objectives of the Study

This research aims to show how content relevance raises student motivation in Industrial Technology courses. Specifically, it examines how students' perceptions of curriculum alignment with real industry needs influence their participation, engagement, and commitment to learning. Statistical analysis is used to identify which elements of the curriculum—such as course content, practical training, or industry exposure—most strongly affect student motivation. Students who engage in learning experiences that closely reflect real-world workplace demands are generally more motivated, confident, and better prepared for future employment (Kolb, 2015; World Economic Forum, 2023). The findings of this study are intended to support the development of a curriculum that inspires students to become job-ready while fostering both their professional competence and personal growth.

Specifically, the research aims to:

1. Assess the perceived alignment of the Industrial Technology curriculum with industry requirements.
2. Measure the level of student motivation among the Industrial Technology students.
3. Analyze the predictive relationship between curriculum alignment and student motivation.
4. Identify which dimensions of curriculum alignment significantly influence student motivation.

Importance of the Study

The results of this study clearly show that student interest can be significantly enhanced when Industrial Technology education is closely aligned with industry needs. Students who engage in learning experiences that reflect real-world workplace demands are more motivated, confident, and better prepared for future employment. In response to rapid technological advancements, teachers and curriculum developers must continuously update course content, learning objectives, and instructional strategies to ensure that educational programs remain relevant and effective (Fullan, 2007; UNESCO, 2021). By doing so, institutions can equip students with the knowledge, skills, and competencies required for the workforce while fostering greater engagement and satisfaction in their learning. Furthermore, this study provides a strong foundation for future curriculum improvements and research on how collaboration between educational institutions and industry partners can contribute to developing a motivated, sustainable, and job-ready workforce

Scope and Delimitation

- Scope: This study focuses on Industrial Technology students from various higher education institutions, with Aurora State College of Technology (ASCOT) serving as the primary source of data. It also considers insights from other institutions offering similar programs to present a broader and more comprehensive understanding of the subject.

- Delimitations: The study is limited to student perceptions of curriculum alignment and their motivation; it excludes direct assessment of faculty evaluation or employer satisfaction.

Definition of Terms

- Curriculum alignment: refers to the direct connection between the competencies required by industry and the knowledge, skills, learning objectives, teaching methods, and assessments provided in educational programs. It ensures that classroom instruction equips graduates with practical and up-to-date skills needed to meet workforce demands while reducing the gap between theoretical knowledge and workplace application. A well-aligned curriculum enhances educational quality and improves students' preparedness for employment by integrating relevant learning experiences and outcomes (Anderson, 2002; Biggs & Tang, 2011).
- Industry Needs: These needs evolve with technological advancements and market trends, requiring higher education institutions to regularly update and adjust their curricula. Understanding industry needs enables colleges to design programs that produce adaptable, job-ready graduates capable of contributing effectively to their chosen professions. (Organisation for Economic Co-operation and Development [OECD], 2017).
- Student motivation: refers to the internal need or drive that leads students to actively participate in their lessons and persevere in achieving academic goals. It influences how students overcome obstacles, engage with learning tasks, and sustain effort throughout their educational journey. Appropriate teaching strategies can enhance motivation. Meaningful curriculum design and a strong link between instruction and future careers help students appreciate the value of what they are learning, thereby increasing their commitment and improving academic performance (Ryan & Deci, 2000; Tinto, 2012).

Statistical technique: known as regression analysis is used to investigate and forecast the link between two or more variables. Regression analysis in this study is used to find out how curriculum alignment (independent variable) affects student motivation (dependent variable). It helps determine whether enhancements in curriculum design directly influence student motivation to learn based on industry standards. This approach is widely accepted in educational and social science research to discover predictive relationships that guide data-driven academic decision-making (Frost, 2019).

Methodology

Research Design

To investigate the relationship between curriculum alignment with industry needs and student motivation among Industrial Technology students, this study utilized a quantitative-correlational research design. Linear regression analysis was employed to establish the extent to which perceived curriculum alignment predicts student motivation. The quantitative method was selected because it permits an objective evaluation of variables, computation of mathematical correlations, and trend analysis using numerical data. The correlational technique is uniquely suited for assessing the degree to which variations in curriculum design relate to changes in student motivation, as established by Creswell and Creswell (2018).

Locale of the Study

This investigation was conducted at the Aurora State College of Technology (ASCOT), specifically within the School of Industrial Technology. ASCOT's Industrial Technology programs integrate theoretical frameworks with practical, hands-on applications designed to prepare students for employment across various technical and commercial sectors. The institution provides an ideal setting for this research due to its ongoing institutional initiatives to align curriculum designs with the evolving needs of regional industries. Through active collaboration with corporate and industrial stakeholders, ASCOT ensures its programs remain relevant and responsive to market demands, thereby offering a highly suitable environment for evaluating the interplay between curriculum alignment and student motivation.

Respondents of the Study

The target population for this study comprised students enrolled in the School of Industrial Technology at the Aurora State College of Technology (ASCOT). Stratified random sampling was utilized during the 2025–2026 academic year to select a sample size of exactly 150 students, ensuring equitable representation across multiple specializations and year levels. The sample included participants from the first-year through fourth-year cohorts, capturing a comprehensive spectrum of student insights at different stages of navigating the Industrial Technology curriculum.

Research Instrument

A self-structured questionnaire served as the primary data collection tool. The instrument is divided into three distinct sections:
Part I: Demographic Profile (age, sex, year level, and area of specialization).
Part II: Curriculum Alignment Scale, featuring items that evaluate perceived course content, real-world industry relevance, and the efficacy of instructional techniques to determine how well the curriculum matches contemporary industrial demands.
Part III: Student Motivation Scale, consisting of items designed to measure student motivation across dimensions of interest, academic effort, classroom engagement, and career-oriented drive.
Each item in Parts II and III was evaluated using a five-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). To ensure content validity, the instrument was subjected to expert verification and review by senior professors and industry specialists. Following this validation process, a pilot study was conducted to evaluate the internal consistency of the questionnaire. Cronbach's alpha coefficient was computed, with a minimum threshold of 0.70 established to confirm acceptable reliability before full-scale deployment.

Data Gathering Procedure

The data collection process commenced after securing formal authorization from the Dean's Office of the School of Industrial Technology. Upon receiving approval, coordination was established with faculty members to facilitate the administration of the survey during regular class schedules, thereby minimizing disruptions to standard academic activities. Prior to distributing the questionnaires, the researcher clearly explained the purpose of the study to the students and guaranteed the absolute confidentiality of their responses. All respondents provided written informed consent before participating. This procedure strictly adheres to established ethical standards in educational research, which emphasize informed consent, confidentiality, and voluntary participation (Babbie, 2016; Creswell & Creswell, 2018). After collection, the researcher systematically screened and sorted all questionnaires to ensure data completeness, accuracy, and readiness for statistical computation.

Statistical Treatment of Data

The collected quantitative data were analyzed using both descriptive and inferential statistical methods. Descriptive approaches were utilized to outline the general student experience, while inferential analysis was applied to test the predictive hypotheses between the primary variables. This dual statistical framework is widely accepted in educational research to discover significant, data-driven relationships (Creswell & Creswell, 2018; Fraenkel, Wallen, & Hyun, 2019). The specific statistical treatments included:

- Mean and Standard Deviation: Applied to describe the overall levels of perceived curriculum alignment and student motivation.
- Linear Regression Analysis: Conducted to determine the predictive capacity, statistical significance, and effect size of the independent variable (curriculum alignment) on the dependent variable (student motivation).

All mathematical and statistical computations were processed using the Statistical Package for the Social Sciences (SPSS) software.

Ethical Considerations

The execution of this study strictly conformed to institutional ethical guidelines. Participants were explicitly informed of their voluntary involvement and their right to withdraw from the study at any juncture without any negative repercussions or penalties. All gathered data were kept strictly confidential, secured safely, and utilized solely for academic and educational research purposes. In accordance with standard ethical guidelines for educational research (American Psychological Association, 2020), the researcher maintained the highest principles of respect, data integrity, and institutional honesty throughout the study.

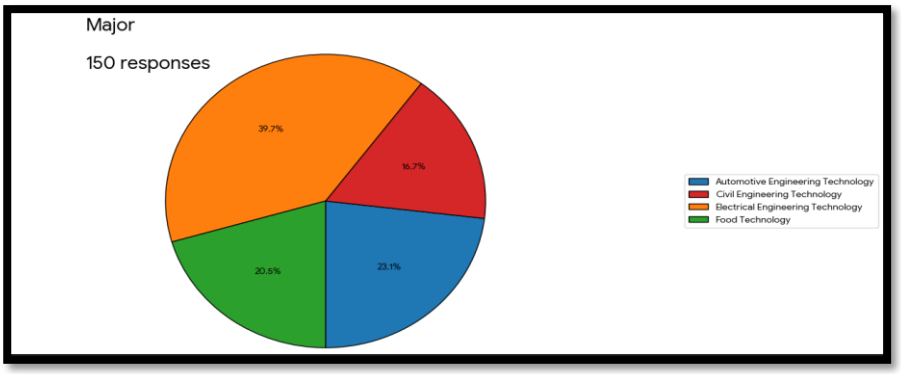
Results and Discussion

No.	Major	Percentage
1.	4th Year	52.0%
2.	1st Year	32.0%
3.	2nd year	13.3%
4.	3rd year	2.7%
Total		**100%**

Table 1. List of percentages for year level

The data for this study were collected from 150 currently enrolled students in the Industrial Technology program during the Academic Year 2025–2026. This sample size is consistent with the stratified random sampling methodology that targeted 150 students who had completed at least one year of the program.

However, an analysis of the distribution by year level reveals a critical imbalance. The sample is heavily concentrated in the final (4th) year (52.0%) and the first (1st) year (32.0%). Together, these two cohorts make up over 84% of the total, meaning the study's conclusions are disproportionately weighted toward the perspectives of students just entering the program and those about to graduate. Conversely, students in the middle of their technical training are severely underrepresented. 2nd-year students contribute a modest 13.3% , but the 3rd-year cohort is nearly invisible at just 2.7%. Given that the 3rd year is typically the period for intensive specialization and critical laboratory work in Industrial Technology, the findings will lack meaningful insight into the effectiveness of the core curriculum and the student experience during its most technical phase. This skewed distribution must be carefully considered when interpreting the subsequent findings related to curriculum satisfaction and industrial preparedness.

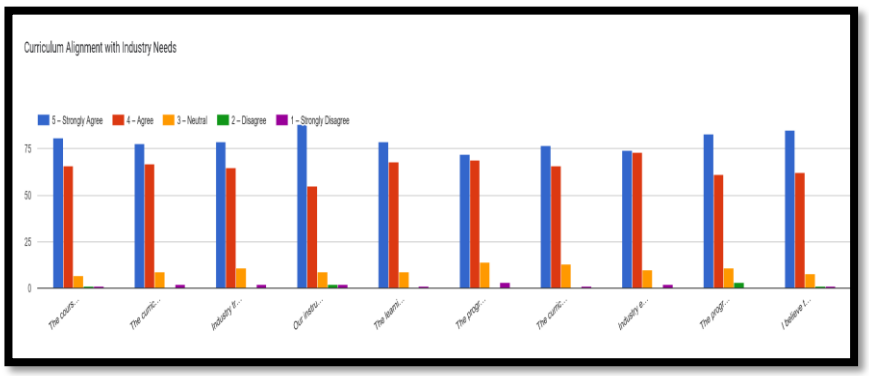


Graph 1. List of percentages for majorship

Legend Label	Major	Percentage
1. Orange	Electrical Engineering Technology	39.7%
2. Blue	Automotive Engineering Technology	23.1%
3. Green	Food Technology	20.5%
4.Red	Civil Engineering Technology	16.7%
Total		**100%**

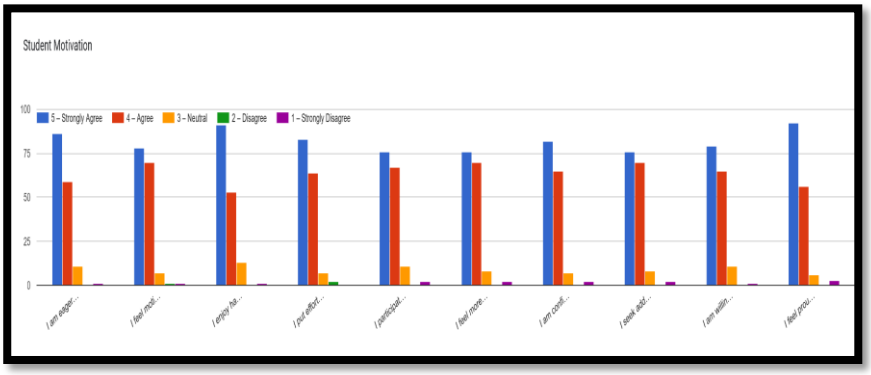
Table 2. List of percentages for majorship

The analysis of the 150 student responses across the Industrial Technology majors shows an uneven, though generally acceptable, distribution for a stratified random sample. With 39.7%, the major in electrical engineering technology makes up the bulk of all the programs. The distribution among the remaining majors preserves good representation, indicating that the stratification captured many voices: Automotive Engineering Technology (23.1%), Food Technology (20.5%), and Civil Engineering Technology (16.7%).



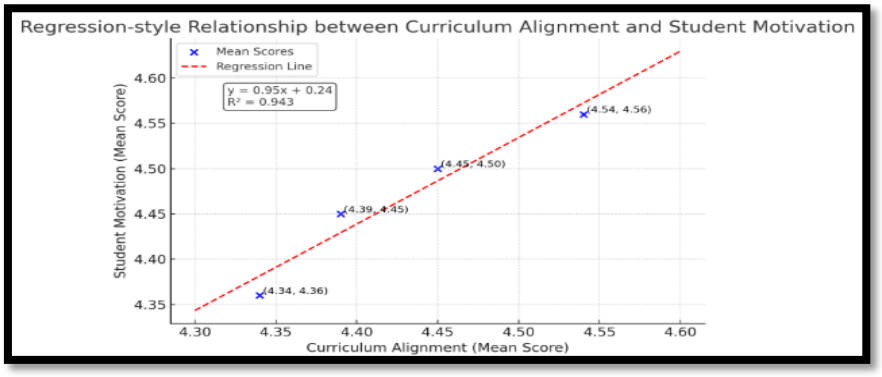
Graph 2. Result of the survey for Curriculum Alignment with Industry Needs.

With all ten rated strongly favorably regarding the Industrial Technology curriculum's alignment with industry needs, the survey results from 150 student respondents reveal a rather positive agreement. products with ratings over 4.30. The highest agreement was found in the core areas of academic relevance and career outcome: students strongly believe that "The courses offered in my program are relevant to the current needs of the industry" (Mean: 4.54) and that the curriculum "prepares me well for future career challenges" (Mean: 4.51). Moreover, students supported the growth of "practical and technical abilities relevant to real work conditions" (Mean: 4.41), confirming the effectiveness of the program's applied emphasis. and the giving of "sufficient laboratory or hands-on experience" (Mean: 4.39). The students seem very pleased with both the material and the delivery, yet the lowest marks were given to statements about administrative procedures—particularly the things on whether the "curriculum is periodically reviewed" (Mean: 4.34) and if "industry experts are consulted or involved in curriculum development" (Mean: 4.35). This implies that although the curriculum's output is appreciated, the institution could enhance visibility of industry experts or improve transparency to support validation of its continuous quality assurance procedures.



Graph 3. Result of the survey for Student Motivation.

The survey results on Student Motivation demonstrate that Industrial Technology students are highly motivated and committed to their field, with all ten measured items receiving an average rating above on a 5-point scale (where is Strongly Agree). The highest motivational factors are rooted in the students' sense of identity and the practical, hands-on nature of the program: the single highest-rated statement was "I feel proud and motivated to be an Industrial Technology student," which achieved the top mean score of 4.56. The learning atmosphere strongly backs this great innate pride; the assertion "I love hands-on activities and real exercises in my curriculum" received high ratings. Furthermore, elevated average scores for the item 'I am eager to learn' underscore a highly career-oriented motivation, thereby confirming the importance of the curriculum. Second highest mean is 4.49. "to learn because I see the link between my lessons and my future profession" (Mean: 4.47) and the great confidence showed in the result of the program, With an average of 4.44, "I am certain that my program will assist me to be employable following graduation. Though still quite positive, the lowest-rated motivational factors were connected to self-directed involvement: "I look for more learning opportunities to better my technical skills." (Mean: 4.37) Mean: 4.36; I take part in group projects and class conversations. These results imply that although students as a whole are highly motivated, more structured opportunities for outside skill development and actively classroom participation could produce Gradual gains in general student engagement.



Graph 4. Regression Relationship Between Curriculumn Alignment And Student Motivation.

Based on the mean answers of the participants, the graph clearly depicts a positive link between course alignment and student motivation. According the graphed data, their degree Motivations increase from 4.34 to 4.54 as students perceive the curriculum to be more in line with industry demands. Increase likewise from 4.36 to 4.56. The regression line emphasizes this increasing trend; hence, more relevance in the curriculum strongly improves students' excitement. commitment to their educational activities and participation. According the diagram, an R^2 value of 0.943 points to a great degree of correlation, hence indicating that roughly 94.3% of the variance in The Student motivation is somewhat explained by the extent of curriculum matching with industry standards. Understanding how their course material relates to future employment environments will help students to have more direction, focus, and motivation as well as confidence in their chosen profession. Fundamentally, curriculum alignment motivates students' preparation for industrial needs by linking academic material with real-world applications hence boosting their readiness.

Hypotheses testing

The research indicated a strong positive connection between curriculum alignment and student motivation, as shown by the regression result (R^2 = 0.943). This suggests that the greater the curriculum fulfills industry demands, the more motivation, involvement, and enthusiasm observed among students will increase. One would then reject the null hypotheses (H_{01} and H_{02}) and embrace the alternative hypothesis (H_a). This lends weight to the theory that matching the curriculum with industry needs determines student motivation. It follows that students are more motivated when they view their course as useful, practical, and highly linked to actual world applications.

Conclusion and Recommendations

1. Motivation soars when students are aware of their study's direction. Studies show that students show more engagement when a curriculum matches the requirements demanded in today's workplace. Students become more engaged and driven to succeed when they understand that their current knowledge can help them get great employment and fulfilling careers. In this way, having excellent, deliberately created curriculum is more than just an administrative scheme; rather, it is a significant contributor to assisting students in "owning their "own education," and keep motivated enough to complete it.

2. Most motivated are people able to envision the future and make decisions. This study emphasizes course design as a tool to motivate rather than simply pass along information. Additionally more motivated to keep studying and engaged are those who find the curriculum relevant to actual commercial events and stress practical application. Created to reflect industry life and boost self-confidence and direction, the curriculum tries to students want anything highly when instruction seems pertinent and tightly linked to future possibilities.

3. For the industrial technology student, a well-prepared curriculum acts as a starting point for future development rather than only a subject of study. Good linking of classroom theory with actual job skills gives students two primary advantages: motivation and competence. Their discussions seem more fitting for their upcoming employment than academic criteria. Their academic success and enthusiasm separate from this viewpoint. Good technical and vocational programs finally depend on matching educational resources to current industry demands to develop graduates who are self-assured, competent, and job-ready.

Recommendation

The findings of the research, these recommendations are intended to encourage Industrial Technology students even more and boost harmony from a curriculum meeting contemporary industry needs.

1. Enhance actual contacts and relationships between industry. The research shows that most motivated students are those who clearly relate their studies to their future careers. Therefore, institutional initiatives should actively expand strategic networks with industry sectors, inviting corporate specialists to lead instructional workshops, expanding internship pathways, and continuously modifying the curriculum to mirror contemporary field practices. Provide additional internships; modify the course curriculum to match current job practices.

2. Considering that students shown a lot of drive when participating in hands-on activities and practical projects, the school would be well advised to continue producing laboratory and workshop experiences. Through project-based learning, the institution may consider including current technology and tools as well as facility changes into the curriculum. These encounters allow students to use their understanding in actual events, hence improving their self-esteem and pride in their chosen field.

3. Encourage independent work and active engagement. Results suggest that even with already strong degrees of motivation, students could still grow in areas connected to self-directed study and class engagement. Peer mentoring, group

projects, and class debates among other cooperative and interactive teaching methods are encouraged among instructors. Encouraging their independence and innovation in learning, then, students could be motivated to enroll in short training courses or take part in technical abilities competitions.

Acknowledgement

The authors are really grateful to the faculty of the School of Industrial Technology at Aurora State College of Technology and its administrators for Their Along with the Industrial Technology students who participated and shared their, insightful observations, comments, and support given during the implementation of this study are greatly appreciated.

Funding

This research received no external funding from any public, commercial, or not-for-profit funding agency, and no organization provided financial support for the conduct of the study, authorship, or publication of this article.

Competing Interests Statement

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this article.

Data Availability Statement

Data sharing is not applicable to this article as no new data were created or analyzed in this study; all data used were obtained from previously published sources as cited in the reference list.

References

American Psychological Association. (2020). Publication manual of the American Psychological Association (7th ed.). https://apastyle.apa.org/products/publication-manual-7th-edition

Anderson, L. W. (2002). Curriculum alignment: Research-based principles. Eye on Education

Babbie, E. (2016). The practice of social research (14th ed.). Cengage Learning. https://www.cengage.com/

Biggs, J., & Tang, C. (2011). Teaching for quality learning at university (4th ed.). Open University Press. https://www.mheducation.co.uk/open-university-press

Creswell, J. W., & Creswell, J. D. (2018). Research design: Qualitative, quantitative, and mixed methods approaches (5th ed.). SAGE Publications. https://us.sagepub.com/en-us/nam/research-design/book246896

Finch, D. J., Hamilton, L. K., Baldwin, R., & Zehner, M. (2013). An exploratory study of factors affecting undergraduate employability. Education + Training, 55(7), 681–704.

Frost, J. (2019). Regression analysis: An intuitive guide for using and interpreting linear models. Statistics By Jim Publishing. https://statisticsbyjim.com

Fullan, M. (2007). The new meaning of educational change (4th ed.). Teachers College Press. https://www.tcpress.com

Kolb, D. A. (2015). Experiential learning: Experience as the source of learning and development (2nd ed.). Pearson Education. https://www.pearson.com

Ngure, S. W. (2013). Stakeholders' perceptions of technical, vocational education and training: The case of Kenyan micro and small enterprises in the motor vehicle service and repair industry (Doctoral dissertation, Edith Cowan University). Edith Cowan University Research Online. https://ro.ecu.edu.au

Organisation for Economic Co-operation and Development. (2017). Getting skills right: Skills for jobs indicators. OECD Publishing. https://www.oecd.org

Paryono. (2017). The importance of TVET and its contribution to sustainable development. Journal of Education and Practice, 8(32), 55–62.

Tinto, V. (2012). Completing college: Rethinking institutional action. University of Chicago Press. https://press.uchicago.edu

World Economic Forum. (2023). The future of jobs report 2023. https://www.weforum.org/reports/the-future-of-jobs-report-2023/

Appendices

No appendices are attached to this study.