

Experimental Learning Through Industry-Sponsored Mini Projects: A Model for Curriculum Integration

¹Amit Lathigara, ²Nirav Bhatt, ³Paresh Tanna, ⁴Parvez Belim

^{1,2,3,4}School of Engineering, RK University, Gujarat, India

¹amit.lathigara@rku.ac.in

²nirav.bhatt@rku.ac.in

³paresh.tanna@rku.ac.in

⁴parvez.belim@rku.ac.in

Abstract—This study examines the integration of industry-sponsored mini-projects into the Internet of Things (IoT) curriculum for 5th-semester B.Tech Computer Engineering students at RK University, implemented in collaboration with Nirav Precision, Rajkot. Using a quasi-experimental, mixed-method design, 60 students completed six-week IoT projects focused on real industrial problems involving sensor integration, hardware-software interfacing, and cloud-based monitoring, under joint faculty-industry mentorship. Their outcomes were compared with a previous cohort that followed traditional lab-based instruction. Results showed significant improvements in project quality, concept application, teamwork, and perceived industry readiness, with gains ranging from 13% to 19%. Qualitative feedback further highlighted enhanced problem-solving, accountability, and practical understanding due to real-world exposure. The findings demonstrate that embedding structured, industry-aligned mini-projects within the IoT curriculum strengthens technical competence and professional preparedness, offering a scalable model for curriculum-industry integration in engineering education.

Keywords—Internet of Things (IoT), Industry-Sponsored Projects, Experiential Learning, Engineering Education, Curriculum Integration

ICTIEE Track—Innovative Pedagogies and Active Learning

ICTIEE Sub-Track—Project-Based and Problem-Based Learning (PBL)

I. INTRODUCTION

The Internet of Things (IoT) has emerged as a transformative paradigm in the field of engineering and technology, enabling seamless connectivity, data exchange, and automation across physical devices and digital systems. As industries increasingly adopt IoT solutions to optimize operations, monitor assets, and drive innovation, there is a growing demand for engineers equipped with practical IoT skills that extend

beyond theoretical knowledge. Despite being fundamental, traditional classroom instruction and simulation-based lab exercises frequently fail to adequately prepare students for the challenges and limitations of actual IoT deployments, including hardware-software integration, network dependability, data latency, and system scalability. To fill this gap, experiential learning—which emphasizes learning by doing, reflection, and hands-on engagement—has become a popular pedagogical approach in engineering education. Industry-sponsored mini-projects, which incorporate real-world, application-focused difficulties into the curriculum, provide a particularly successful model among other experiential learning strategies. Such partnerships help students develop important soft skills like cooperation, accountability, and project ownership—qualities necessary for success in the workplace in IoT-focused roles—while also exposing them to industry standards and limitations.

This study was carried out during the fifth semester of RK University's B.Tech. Computer Engineering program, when the IoT course was modified to incorporate small projects supported and guided by Rajkot-based Nirav Precision, an industrial automation business. In place of traditional lab assignments, students spent six weeks working in small groups on projects that involved real-time data collection, sensor integration, device management, and cloud-based monitoring system issues that were centered on the operating environment of Nirav Precision. Under the supervision of a mentor, this program sought to place theoretical ideas in the context of business operations and give students the opportunity to design, test, and present working IoT solutions.

Kabilan (2023) further argues that emerging immersive and technology-driven learning environments expand student engagement and better prepare learners for real-world problem-solving, reinforcing the need for pedagogical models that go beyond traditional classroom boundaries (Kabilan, 2023).

This study's main goal is to assess how well industry-sponsored mini-projects may be included into the IoT

Amit Lathigara

School of Engineering, RK University, Gujarat, India

RK University, Kasturba Dham, Bhavnagar-Rajkot Highway, Rajkot-360020

amit.lathigara@rku.ac.in

curriculum in terms of education. The learning outcomes, technical proficiency, and perceived industry preparedness of students enrolled in this model are specifically contrasted with those of a prior cohort that used a conventional, lecture-and-lab methodology. The study aims to demonstrate how practical problem-solving experiences can improve the breadth, significance, and effect of undergraduate IoT education by examining quantitative performance measures and qualitative feedback.

While project-based learning has been widely discussed in engineering education, limited research examines structured, short-duration industry-sponsored mini-projects embedded directly within core IoT courses, particularly in the Indian higher-education context. Existing studies often focus on long-term capstone projects or large-scale internships, leaving a gap in understanding the effectiveness of industry-framed mini-projects as a formal curricular component. This study is grounded in experiential learning and constructivist learning theory, which emphasize learning through authentic tasks, reflection, and real-world engagement. By integrating these principles into the IoT curriculum, the study evaluates how industry-aligned mini-projects influence student learning outcomes compared with traditional instruction.

II. LITERATURE REVIEW

The literature review summary for the planned work is shown in Table I. The quick development of the Internet of Things (IoT) has had a big impact on education and industry, which has led to a reconsideration of how IoT is taught in engineering programs. Conventional classroom-based teaching approaches usually focus on theoretical concepts, simulations, and controlled lab exercises, but they usually don't adequately prepare students to deal with the real-world complexity of IoT systems, like cybersecurity, edge computing, hardware-software synchronization, and interoperability (Al-Fuqaha et al., 2015). In order to meet industry demands and give students the opportunity to learn by tackling real-world problems, educators and academics have thus pushed for experiential and project-based learning strategies more and more.

Prior work by Tanna et al. has demonstrated the effectiveness of activity-based and experiential learning models in improving engagement and conceptual clarity in engineering subjects, especially in programming and technology-enhanced courses (Tanna, Bhatt, & Patel, 2020; Tanna, Bhatt, & Lathigara, 2021). Their recent work further highlights how NEP-aligned pedagogical reforms and emerging technologies can transform engineering education practices (Tanna, Lathigara, & Bhatt, 2025).

Integrating industry-sponsored projects into IoT education is one such tactic. By giving students the chance to work with industry partners to tackle real-world problems, these programs help them develop their technical and professional abilities. Kolmos et al. (2021) claim that industry-linked experiential learning in engineering greatly enhances student engagement, adaptability, and system-level thinking. Their results lend credence to the notion that short-term, real-world projects

included into already-existing training can successfully mimic the workplace and enhance learning beyond what is taught in textbooks.

In a study on IoT-based project-based learning, Fernandes et al. (2020) discovered that students who were given real-world use-case projects were more motivated and had better conceptual clarity than those who were given simulated lab tasks. Additionally, the study found that students improved their communication skills, especially in expressing technical difficulties and working across functional roles—skills that are frequently disregarded in conventional assessment models. Nouri et al. (2022) also highlighted how integrating IoT education with industry mentorship improves students' comprehension of real-world deployment problems like sensor dependability, connectivity difficulties, and scalability limitations. Their study showed that students using these hybrid models felt more comfortable implementing end-to-end IoT solutions, such as cloud integration, data pipelines, and edge devices.

Similar outcomes have been reported by Machado et al., who implemented an IoT-focused hands-on framework that enhanced system-level understanding, teamwork, and practical collaboration among engineering students (Machado, Norbisrath, & Jubeh, 2024).

The increasing focus on curriculum-industry integration in response to the skills gap in the technology sector is another pertinent aspect. While IoT remains a highly sought-after skill, according to a World Economic Forum report from 2023, the majority of engineering graduates lack practical experience with real-time data systems, embedded development platforms, and industrial-grade communication protocols. In order to guarantee that graduates are equipped for modern job roles, academic institutions are being urged to incorporate work-integrated learning strategies. Research by Ahmed et al. (2023) further supports this claim, showing that engineering students who completed industry-mentored IoT projects demonstrated significantly higher employability scores, especially in categories like technical fluency, solution prototyping, and stakeholder communication.

A similar emphasis on industry-linked learning is highlighted by Kulkarni et al., who demonstrated that workshop-driven internships significantly enhance students' practical competence and professional readiness by exposing them to real workplace expectations (Kulkarni, Pednekar, & Nirmal, 2025).

In addition, Kumar et al. proposed an Active Blended Learning (ABL) model for IoT application development, demonstrating that integrating guided practice with real-world tasks substantially improves learner motivation, performance, and IoT-related problem-solving skills (Kumar, Malhotra, Dias, & Lee, 2024).

Despite the growing support for experiential models, challenges remain in implementation. As Ford and Riley (2021) point out, successful integration of industry-sponsored mini-projects requires coordination between faculty, industry partners, and students, as well as flexible curriculum design that can accommodate project-based assessment structures.

Nevertheless, when effectively scaffolded, such projects can result in deep learning, long-term knowledge retention, and a stronger alignment between educational outcomes and workforce expectations. Moreover, broader studies on digital technology adoption in engineering education highlight that institutional readiness, faculty capacity, and supportive digital infrastructure are essential for successfully implementing innovative, industry-aligned teaching models (Onyia, 2025).

In summary, the literature strongly supports the integration of industry-sponsored, experiential learning models—particularly in fast-evolving domains like IoT—with undergraduate engineering education. These models not only foster technical and analytical competencies but also equip students with practical skills that enhance their professional readiness. The present study builds upon this body of work by implementing and evaluating such a model within the IoT curriculum at RK University, aiming to provide empirical evidence of its impact on learning effectiveness, concept application, and student confidence.

TABLE I
SUMMARY LITERATURE REVIEW

Author(s) & Year	Focus Area	Key Findings
Al-Fuqaha et al. (2015)	IoT architecture, technologies, and education challenges	Traditional teaching lacks real-world IoT integration; experiential methods recommended
Kolmos et al. (2021)	Industry-engaged project-based learning in engineering	Industry-linked projects improve system thinking and student engagement
Fernandes et al. (2020)	Project-based learning in IoT courses	IoT PBL increases student motivation, practical skills, and team communication
Nouri et al. (2022)	Industry-mentored problem-based learning for IoT	Mentorship enhances understanding of IoT deployment challenges and technical integration
Ahmed et al. (2023)	Industry-academic collaboration and IoT employability	Industry-mentored students show higher employability and technical fluency
Ford & Riley (2021)	Design and implementation of industry-sponsored student projects	Effective coordination and flexible curriculum design are crucial for success
World Economic Forum (2023)	Global trends and skill demands in IoT and automation	Hands-on IoT experience is a critical workforce requirement across sectors

Although prior studies strongly support project-based and industry-mentored models in IoT education, most focus on international contexts, long-duration projects, or specialized lab environments. Few studies evaluate short-cycle, industry-sponsored mini-projects embedded within mandated coursework in Indian universities. Moreover, limited work has compared such models using a quasi-experimental design. The present study addresses these gaps by providing empirical evidence from an Indian engineering program and offering a replicable model for curriculum-industry integration.

III. RESEARCH METHODOLOGY

As shown in Fig. 1, this study adopted a quasi-experimental, mixed-method research design to evaluate the educational impact of integrating industry-sponsored mini-projects within the Internet of Things (IoT) curriculum of the 5th semester B.Tech Computer Engineering program at RK University. The intervention was carried out in collaboration with Nirav Precision, a Rajkot-based industrial automation company. A total of 60 students were enrolled in the IoT course during the semester and were systematically grouped into 12 project teams, each comprising five members. Each team was assigned a real-world IoT challenge drawn from Nirav Precision's operational environment—such as sensor-based machine monitoring, wireless inventory management, or cloud-based equipment diagnostics. These mini-projects were co-designed by academic instructors and Nirav Precision engineers to ensure both educational alignment and industrial relevance.

The methodological approach used in this study aligns with prior experiential and activity-based learning frameworks, where structured real-world tasks, iterative feedback, and mentor support result in improved accountability and applied technical competence (Tanna, Lathigara, & Bhatt, 2025; Machado et al., 2024).

The implementation followed a six-week structured project cycle embedded within the semester's IoT syllabus. In week one, teams underwent an orientation session on project objectives, assessment rubrics, and expectations. Weeks two and three involved requirement analysis, design planning, and iterative consultation with industry mentors. Weeks four to six were focused on hardware-software integration, system deployment, and preparation for final project presentations. Faculty members provided academic mentoring on IoT concepts such as MQTT protocol, NodeMCU programming, cloud connectivity (e.g., Firebase or ThingSpeak), and sensor calibration, while Nirav Precision engineers guided teams on practical deployment issues, reliability constraints, and real-world application optimization.

This approach is similar to tool-based IoT teaching strategies reported by Praveena (2025), where structured use of IoT tools and platforms significantly improved students' understanding of device connectivity, data flow, and real-time system performance (Praveena, 2025).

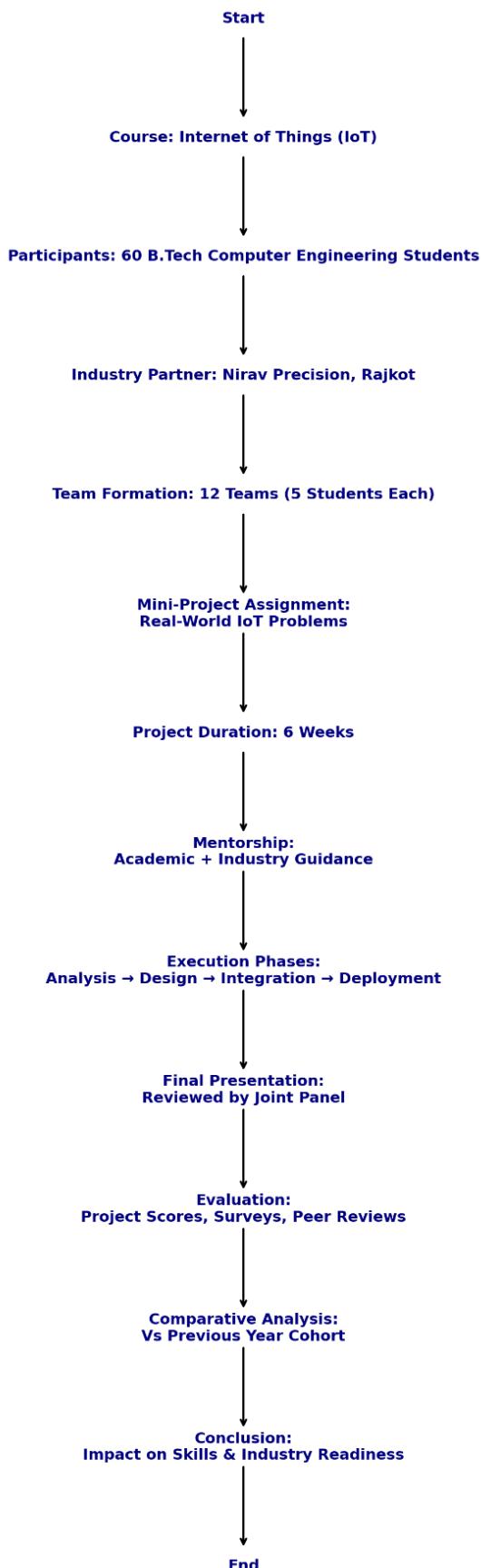


Fig. 1. Industry-Sponsored IoT Mini-Project Study - Methodology
To assess the effectiveness of this experiential model, both

quantitative and qualitative data were collected. A comparative group from the previous academic year (2022–23), who had studied the same IoT course through traditional lab-based instruction without industry collaboration, served as the control cohort. The two cohorts were comparable in terms of class size, academic background, prior IoT exposure, and demographic distribution, ensuring sampling equivalence for meaningful comparison. The evaluation metrics included:

1. Project Performance Scores, assessed by a joint academic-industry review panel using a rubric that measured technical accuracy, concept application, innovation, and usability.
2. Student Self-Assessment Surveys, conducted before and after the project to capture perceived competence in real-world IoT deployment.
3. Peer Collaboration Scores, based on intra-team peer evaluations reflecting accountability, communication, and teamwork.

Faculty Observations and Industry Mentor Feedback, collected through structured reflection sheets and debriefing sessions.

To compare mean score improvements between the experiential and control groups, quantitative data were analyzed using descriptive statistics and paired t-tests. The pre- and post-survey instruments were reviewed by three subject experts for content validity and piloted with 12 students from a different cohort to ensure clarity and reliability. Cronbach's alpha for the final survey items ranged between 0.78 and 0.84. Deeper insights on motivation, conceptual clarity, and difficulties encountered during the project cycle were obtained by thematically analyzing qualitative feedback from mentors and students. The Institutional Research Committee at RK University granted ethical approval for the study, and before any data was collected, each participant gave their informed consent. Sample themes identified from qualitative feedback included "enhanced real-world confidence," "shift from theoretical to applied understanding," and "greater accountability due to industry mentorship."

This approach sought to replicate a real-world IoT development environment in a classroom setting by fusing structured academic scaffolding, ongoing mentoring, and real-world challenges. In addition to strengthening theoretical knowledge, the design aimed to develop important 21st-century skills like creativity, teamwork, and workplace preparedness.

IV. RESULTS AND DISCUSSION

The implementation of industry-sponsored mini-projects in the 5th semester IoT course at RK University led to notable improvements across multiple learning dimensions when compared with the previous cohort that underwent traditional instruction without industry collaboration. As shown in Fig 2, the results were analyzed using quantitative assessment data—

project evaluation scores, self-assessment surveys, and peer collaboration metrics—and illustrated using the comparative charts above.

Project Quality scores increased significantly, from an average of 66.3% in the traditional cohort to 80.7% in the industry-integrated group. Students demonstrated a deeper understanding of practical design principles, real-world constraints, and optimization techniques due to close mentorship by Nirav Precision engineers. The hands-on exposure to actual use cases encouraged students to be more precise and iterative in their approach.

Concept Application showed an even more dramatic improvement—rising from 62.5% to 81.7% — a 19.2% gain. Students reported enhanced clarity in implementing IoT protocols, integrating sensors and microcontrollers, and managing data transmission to the cloud. This improvement can be directly attributed to the project-based structure, where students were required to move beyond simulation to build functioning prototypes.

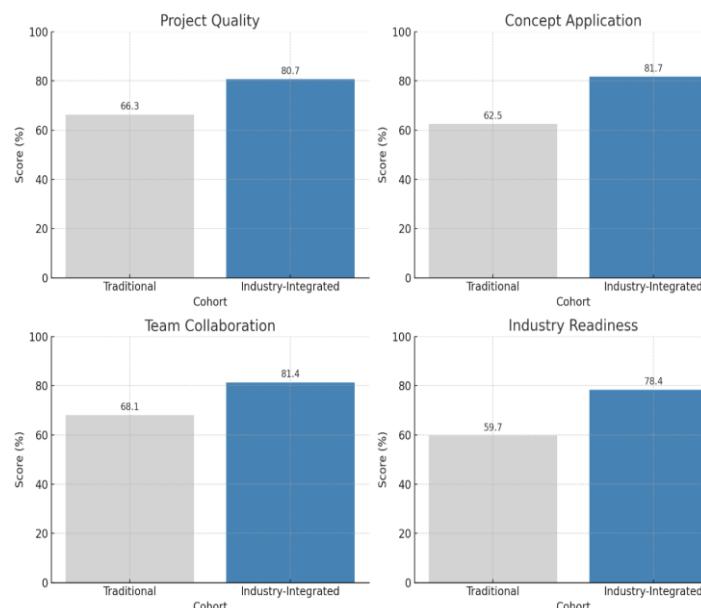


Fig. 2. Comparative Performance: Traditional vs Industry-Sponsored IoT Projects

Team Collaboration also improved, with the average peer evaluation scores rising from 68.1% to 81.4%. The presence of an external industrial mentor led to better role definition, accountability, and intra-team communication. Students mentioned that delivering a solution to a real client increased their sense of ownership and professional discipline.

The most substantial gain was seen in Perceived Industry Readiness, which increased from 59.7% to 78.4%, a +18.7% improvement. Surveys conducted after the final review sessions indicated that students felt more confident in attending technical interviews, understanding client requirements, and applying IoT concepts to industrial environments.

Overall, the industry-sponsored mini-project model not only boosted technical proficiency but also contributed to soft skill

development, critical thinking, and professional mindset—confirming the advantages of embedding real-world challenges in the engineering curriculum. These findings align with contemporary educational research and further establish the value of industry-academia collaboration in building job-ready graduates, particularly in rapidly evolving fields like IoT.

TABLE II
INDEPENDENT SAMPLES T-TEST – TRADITIONAL VS INDUSTRY-SPONSORED
IOT MINI-PROJECTS

Parameter	Traditional (Mean ± SD)	Industry-Integrated (Mean ± SD)	Mean Difference	t-value	p-value	Sig.ificant?
Project Quality (%)	66.3 ± 8.1	80.7 ± 7.5	+14.4	8.72	<0.001	Yes
Concept Application (%)	62.5 ± 8.3	81.7 ± 6.9	+19.2	10.95	<0.001	Yes
Team Collaboration (%)	68.1 ± 7.8	81.4 ± 6.7	+13.3	8.84	<0.001	Yes
Industry Readiness (%)	59.7 ± 9.0	78.4 ± 7.4	+18.7	10.22	<0.001	Yes

Note: All t-tests used $\alpha = 0.05$. p-values < 0.001 indicate highly significant improvements.

Interpretation of the t-test Results

The statistical analysis given in Table II, shows highly significant gains across all four measured learning dimensions for the industry-sponsored cohort compared to the traditional group:

Project Quality (+14.4%): Students produced more complete, optimized, and user-ready IoT solutions when mentored by industry professionals.

Concept Application (+19.2%): The largest technical improvement, showing students could translate theoretical IoT concepts into fully functioning prototypes.

Team Collaboration (+13.3%): External mentor involvement improved accountability, task distribution, and intra-team communication.

Industry Readiness (+18.7%): Students reported greater confidence in applying skills to real-world scenarios, client communication, and interview preparation.

These findings statistically validate that integrating industry-sponsored mini-projects into the IoT curriculum substantially enhances both technical competence and professional preparedness, confirming the model's value for curriculum-industry integration.

The observed improvements support experiential learning theory, wherein authentic tasks enhance conceptual understanding, and constructivist principles, which posit that learners build deeper knowledge when actively engaged in

meaningful, real-world problem-solving. These improvements are consistent with earlier research, where hands-on IoT projects and blended experiential models were shown to significantly enhance prototype development skills, conceptual understanding, and learner motivation (Machado et al., 2024; Kumar et al., 2024). Similar activity-based learning studies also highlight gains in student autonomy and applied reasoning (Tanna et al., 2020; Tanna et al., 2021).

The study is limited to a single institution and a sample size of 60 students, which may affect generalizability. The intervention duration (six weeks) is relatively short, and results may vary in different institutional contexts.

The findings align with earlier studies such as Fernandes et al. (2020) and Nouri et al. (2022), which also reported increased practical competence and motivation through real-world IoT projects. However, unlike these works, the present study provides a quasi-experimental comparison and evaluates industry-sponsored mini-projects specifically within an Indian curriculum context.

CONCLUSION

The incorporation of industry-sponsored mini-projects into RK University's fifth semester B.Tech Computer Engineering program's Internet of Things (IoT) curriculum has shown itself to be a very successful experiential learning approach. Students had the chance to participate in real-world IoT challenges that necessitated applying theoretical knowledge to real-world, industrial contexts thanks to a partnership with Nirav Precision in Rajkot. The study's findings unequivocally show that this instructional strategy greatly improved a number of aspects of students' learning and readiness. In comparison to a cohort that received traditional instruction, students demonstrated significant improvements in technical execution, concept application, collaboration, and industry readiness, with percentage gains ranging from 13% to almost 20% across evaluation categories.

Along with bridging the gap between academic instruction and industry practice, the initiative promoted critical 21st-century skills like accountability, problem-solving, teamwork, and client-oriented thinking. In ways that traditional classroom methods frequently fall short of, working with real industrial problems boosted students' motivation, deepened their conceptual understanding, and instilled a sense of professional responsibility. Moreover, students were given timely feedback and direction through the structured mentorship offered by both industry professionals and faculty, which enabled them to meaningfully iterate and improve their solutions.

This study confirms the scalability and effectiveness of incorporating brief, targeted, and contextualized industry projects into technical courses. According to the model's success, industry-academic partnerships of this kind can be successfully extended to other departments and subjects in order to develop a curriculum that is applied, dynamic, and in line with market demands. This approach provides a sustainable way to produce graduates who are not only technically

proficient but also prepared for the workforce right out of school, in an educational ecosystem that is becoming more and more focused on outcomes, employability, and innovation. These findings also support Vijay's (2024) model for early industry exposure in curriculum design, which emphasizes that embedding authentic industry challenges within coursework strengthens students' professional mindset and accelerates workplace preparedness (Vijay, 2024).

The study offers actionable insights for academic policy, including the need to redesign engineering curricula to embed short-duration industry projects and to invest in faculty development programs that build capacity for mentoring real-world, industry-aligned projects.

FUTURE WORK

There are numerous chances to develop and improve this model in subsequent iterations, even though the incorporation of industry-sponsored mini-projects into the IoT curriculum has shown significant educational benefits. Future research should focus on expanding the program across several domains and semesters so that students can gradually gain practical skills in a range of cutting-edge technologies, including robotics, edge computing, cybersecurity, and machine learning. Including interdisciplinary teams, in which students from mechanical, electrical, and computer engineering work together on intricate Internet of Things systems, could help replicate real-world project dynamics and promote more comprehensive system-level thinking.

Increasing the level of industry engagement is another crucial avenue. Project definition and mentorship were the main areas of industry involvement in the current model. Offering internships, co-creating course materials, sponsoring hardware kits, or letting students test their prototypes on real factory floors are a few examples of potential future partnerships. In addition to enhancing the educational process, these long-term collaborations would fortify ties between academia and business, which support local innovation ecosystems.

To monitor the long-term effects of such experiential learning on student outcomes, such as placement success, job performance, entrepreneurial activity, and lifelong learning, future research could also take a longitudinal approach. This would offer deeper understanding of the ways in which industry-aligned academic models affect the employability and career advancement of graduates.

In order to evaluate soft skills like communication, flexibility, and project leadership in the context of actual projects, standardized assessment instruments must also be created. Beyond technical competencies, learning outcomes can be more accurately measured by incorporating self-reflection rubrics, client satisfaction scores, and peer evaluation analytics. Lastly, maintaining this model depends on curriculum redesign and faculty development. Future initiatives should look into offering faculty training in industry-based project mentoring and creating adaptable curricula that allow for experiential learning without sacrificing academic integrity. RK University and its partners can take the lead in reinventing engineering

education for the digital age by creating an environment that encourages ongoing innovation in instruction and learning.

REFERENCES

Ahmed, S., Patel, V., & Joshi, K., (2023). Industry-Academic Collaboration for IoT Skill Development: A Case Study on Employability Outcomes., *IEEE Transactions on Education*, 66(3), 230-238.

Al-Fuqaha, A., Guizani, M., Mohammadi, M., Aledhari, M., & Ayyash, M. (2015). Internet of Things: A Survey on Enabling Technologies, Protocols, and Applications. *IEEE Communications Surveys & Tutorials*, 17(4), 2347–2376.

Fernandes, S., Pereire, C., & Lima N., (2020). Learning IoT by Doing: Project-Based Learning Applied to an Internet of Things Course. *International Journal of Education Pedagogy*. 10(4). 119-132.

Ford, A., & Riley, D. (2021). Structuring Effective Industry-Sponsored Projects in Undergraduate Curricula. *Advances in Engineering Education*, 9(2), 1–22.

Kolmos, A., Holgaard, J. E., & Vinther, H. (2021). Industry-Engaged Project-Based Learning in Engineering Education. *European Journal of Engineering Education*, 46(2), 217–233.

Nouri, A., Bagheri, Z., & Rahaman, H., A., (2022) Enhancing IoT Education Through Industry-Mentored Problem Based Learning. *Education and Information Technologies*, 27(5), 6237–6253.

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

A. Lathigara, P. Tanna, and N. Bhatt, “Activity Based Programming Learning,” *J. Eng. Educ. Transform.*, vol. 34, Special Issue, ICTIEE 2021, pp. 499–506, Jan. 2021.

R. P. Machado, U. Norbisrath, and R. Jubeh, “IoT Educational Framework Case Study: Devices as Things for Hands-on Collaboration,” *J. Eng. Educ. Transform.*, vol. 37, pp. 385–392, 2023/2024.

A. Kumar, S. Malhotra, I. Dias, and K. Lee, “Active Blended Learning Model for Teaching IoT Application Development Course: A Case Study,” *J. Eng. Educ. Transform.*, vol. 37, pp. 425–431, 2024.

P. Tanna, A. Lathigara, and N. Bhatt, “Holistic Learning in Engineering: A NEP-Driven Exploration of Emerging Technologies for Education Transformation,” *J. Eng. Educ. Transform.*, vol. 39, no. 2, pp. 66–79, Oct. 2025.

M. G. Kulkarni, M. A. Pednekar, and J. H. Nirmal, “Workshop-Driven Internship: A New Paradigm in Engineering Education,” *J. Eng. Educ. Transform.*, vol. 38, no. 2, pp. 384–388, May 2025.

S. J. Kabilan, “Teaching and Learning in the Metaverse World: The Future of New-Gen Education,” *J. Eng. Educ. Transform.*, vol. 37, no. 1, pp. 134–141, 2023.

U. Onyia, “Drivers of Digital Technology Adoption in Engineering Education,” *J. Eng. Educ. Transform.*, vol. 38, no. 2, pp. 1–7, 2025.

K. S. Praveena, “Tool Based Teaching for Enhancing the Learner Outcome (using IoT),” *J. Eng. Educ. Transform.*, vol. 38, Jan. 2025 (PDF).

H. M. Vijay, “Designing and Delivering Curriculum with Early Industry Exposure Integration: A Model,” *J. Eng. Educ. Transform.*, 2024.

P. Tanna, N. Bhatt, and S. Patel, “An Innovative Approach for Learning and Evaluating Programming-Oriented Courses,” *J. Eng. Educ. Transform.*, vol. 33, no. 3, pp. 62–74, Jan. 2020.