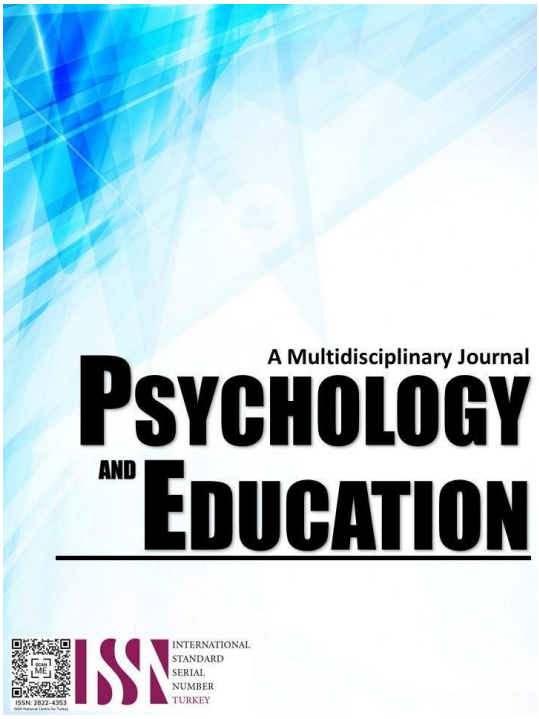
Fostering Student Employability through Second Classroom Practical Activities: A Case Study



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Research Article

Fostering Student Employability through Second Classroom Practical Activities: A Case Study

Nanjue He, Renia F. De La Peña
For affiliations and correspondence, see the last page.

Abstract

This study explores how second-classroom practical activities foster the employability of university graduates in China, focusing on the case of Jiangxi University of Applied Technology. Utilizing a qualitative case study design grounded in social constructionism and an interpretivist lens, data were collected through in-depth interviews with employed graduates, faculty members, and business managers. Findings revealed that extracurricular engagements such as academic competitions, volunteerism, club leadership, and industry-led seminars significantly enhance graduates' soft and hard skills, including teamwork, communication, problem-solving, and industry readiness. While these activities effectively bridge theory and practice, barriers such as limited faculty involvement, time constraints, and misaligned school-industry goals hinder their full impact. Stakeholders emphasized the need for real-world simulations, corporate mentorship, and robust evaluation systems. The study concludes that second-classroom initiatives are vital to holistic student development and calls for strategic reforms to strengthen institutional support, foster long-term industry partnerships, and align programs with evolving labor market demands. These insights contribute to advancing experiential learning models aligned with Sustainable Development Goals (SDGs), particularly quality education and decent work.

Keywords: *second classroom, employability, experiential learning, higher education, university-industry collaboration, China*

Introduction

In the current landscape of higher education, the employability of graduates has become a central concern for universities, policymakers, and employers alike. While formal classroom instruction imparts theoretical knowledge, many graduates face significant challenges when transitioning into the workforce due to limited practical exposure. This gap underscores a fundamental problem: conventional academic curricula often fall short in equipping students with the soft skills, industry readiness, and applied competencies demanded in the contemporary job market (Shaheen et al., 2022; Li, 2024).

To address this, "second classroom" practical activities encompassing academic competitions, volunteer work, club leadership, and experiential learning have emerged as a promising complement to traditional instruction. These activities offer students opportunities to apply academic content in real-world contexts, enhancing critical competencies such as communication, teamwork, leadership, and problem-solving (Kenaphoom & Niyomves, 2024; Sumague, 2023). While institutions in China have increasingly integrated these practices into their co-curricular programs, the effectiveness and strategic alignment of such initiatives with industry expectations remain inconsistently evaluated and under-theorized (Ma, 2023; Lin & Zhou, 2023).

Among the approaches studied, integrated models that combine student-centered activity design, cross-sector collaboration, and simulation-based learning are frequently cited as best practice (Cammeraat et al., 2021; Pickering et al., 2024). However, existing frameworks often suffer from limited faculty support, low student participation, and a lack of rigorous evaluation mechanisms factors that diminish their developmental impact (Zhang et al., 2023). Furthermore, mismatches between academic goals and employer expectations result in misaligned skill sets and extended onboarding periods for new hires (Cirella & Murphy, 2024; Huang et al., 2024).

This study investigates how second classroom practical activities foster the employability of graduates at Jiangxi University of Applied Technology in China. Using a qualitative case study approach, it explores graduates' experiences and stakeholder perspectives including those of faculty and industry managers to assess the strengths, limitations, and future potential of such programs. Grounded in the interpretivist paradigm and the epistemology of social constructionism (Fagan, 2022), this research positions employability as a socially shaped construct influenced by educational practices, institutional culture, and industry dynamics.

This paper aims to: (1) examine students' lived experiences with second classroom activities, (2) evaluate their effectiveness in developing essential employability skills, and (3) offer context-driven strategies to optimize program design and industry alignment. Highlighting empirical evidence and stakeholder insights, this study contributes to broader discourses on experiential learning, employability enhancement, and education-to-work transitions, in alignment with the United Nations Sustainable Development Goal 4 (Quality Education) and Goal 8 (Decent Work and Economic Growth).

Research Questions

The study aimed to address the central research question: How is students' employability fostered through second classroom practical activities? To gain a deeper understanding, the researcher explored the following specific sub-questions:

1. What are the students' experiences in second classroom learning?
2. How well are students equipped with essential industry knowledge, skills, and a positive work attitude?
3. In what ways have second classroom learnings enhanced students' employability?
4. What challenges have students encountered in second classroom learning?
5. What insights have students gained to further improve second classroom practices?

Methodology

Research Design

This study adopted a qualitative research design to explore how students' employability is fostered through second classroom practical activities in China. Qualitative methods enable in-depth exploration of complex human experiences by capturing contextual, narrative data rather than relying on numerical quantification (Robinson, 2021). A case study approach was employed as the specific methodological framework, allowing for an intensive, holistic examination of student engagement within the second classroom context. Case studies are particularly suitable for investigating contemporary phenomena within real-life settings, offering a rich understanding of how contextual factors shape the development of employability skills (Sneed et al., 2020).

Respondents

A purposive sampling strategy was used to identify key informants with relevant experience in second-classroom activities. The study involved three groups of participants: ten faculty members, ten employed graduates of the university, and five business managers from partner enterprises. Participants were selected based on their direct involvement in either the implementation, participation, or assessment of second classroom programs aimed at enhancing employability.

Instrument

This study primarily used researcher-made test items to capture relevant and insightful data. The Science Learner's Material for Grade 8 and Science Links Worktext for Scientific and Technological Literacy issued by the Department of Education (DepEd) in 2015 are the bases for carefully aligning the content and objectives of the pretest and posttest instrument crafted by the researcher. It is to effectively assess the concept understanding within the context of the study, that all the contents of the test items are by the Most Essential Learning Competencies (MELCs) set by the Department of Education.

The research instrument of this study was comprised of two distinct sets of questions. Primarily, a pretest was administered before the commencement of the experimental intervention. This pretest is designed to assess the students' baseline levels of engagement and their understanding of biology concepts before any exposure to the inquiry-based teaching method. The same test items served as the posttest, administered after each lesson's completion during the experimentation phase. These test items were subjected to a validation process to ensure content validity, appropriateness for the target learners, and alignment with the module's learning objectives. Furthermore, the reliability of the test items was determined through a pilot testing phase conducted among Grade 9 students in Columbio National High School, who were not part of the actual study respondents.

To determine the internal consistency of the researcher-made test items, the Kuder-Richardson Formula 20 (KR-20) was utilized. This method is appropriate for dichotomous data (i.e., correct or incorrect responses) and measures the extent to which test items yield consistent results. The process involves calculating the proportion of students who answered each item correctly and incorrectly, summing the variances of individual items.

The results of the reliability analysis indicated a reliability index of 0.82, suggesting a high level of consistency and dependability in assessing student learning outcomes. A higher KR-20 value indicates strong internal consistency, suggesting that the test items reliably measure the same construct.

In addition, a survey questionnaire was used to assess the students' engagement in Biology, which was modified and adapted from Hart et al. (2011). This questionnaire is divided into 3 sub-indicators: cognitive, affective, and psychomotor engagement.

Procedure

Data collection was conducted from November 2023 to January 2024 through in-depth individual interviews and focus group discussions (FGDs). Each interview lasted a minimum of 45 minutes and was audio-recorded with the consent of the participants. FGDs provided additional insight into group dynamics and shared experiences regarding second classroom initiatives. All recordings were transcribed verbatim to ensure accuracy and completeness. Data collection was guided by ethical principles, including voluntary participation, informed consent, confidentiality, and the right to withdraw at any time.

Data Analysis

Data collection was conducted from November 2023 to January 2024 through in-depth individual interviews and focus group

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Ethical Considerations

Prior to data collection, ethical clearance was obtained from the Central Philippine University Research Ethics Review Board. The study adhered strictly to established research ethics protocols. Informed consent was secured from all participants, pseudonyms were used to protect identities, and interviews were conducted in private, quiet environments to safeguard confidentiality. Research data will be securely stored and disposed of in accordance with institutional data protection policies following publication.

Results and Discussion

Through the analysis of the interview contents with 10 employed graduates, 10 teachers, and 10 managers, the following themes and subthemes were identified, as shown in Table 1.

Table 1. Themes and Subthemes

Research Question	Employed Graduates (Themes)	Teachers (Themes)	Business Managers (Themes)
What are the students' experiences in 2nd classroom leaning	Varied experiences Diverse practical activities Academic competitions Club activities Lectures and seminars	Collaborative, practical based learnings design Student centered content design and activities Multi-department collaboration and resource integration	Teamwork and collaboration
How well are the students equipped with essential industry knowledge, skills, and positive work attitude?	Adequate Skills and Competencies Technopreneurship skills Integration of soft and hard skills Innovation and problem solving skills Coping with stress and develop sense of responsibility	Inculcating better skills and adaptive attitude Improved students' practical skills through real world task integration An effective extension of the first classroom	Adequate technological skills but needs improvement
How have 2nd classroom learnings enhance students' employability	Better Employability Potentials Personal competitiveness Established Professional Alumni networking Technical proficiency and industry readiness	Inculcating better skills and adaptive attitude Improved students' practical skills through real world task integration An effective extension of the first classroom	Enhancing Goal Alignment in School-Industry Collaborations to Bridge the Practical Experience Gap Among Graduates Improving goal alignment in school-industry collaborations Inadequate Practical Experience among Graduates
What difficulties have the students encountered in 2nd classroom learnings?	Conflict and Huiman Resource Shortage Team Conflict Lack of second classroom teachers Coping with learning stress	Insufficient evaluation data and teaching personnel Insufficient data on the effectiveness of the second classroom learning Resource and workforce shortage	Insufficient industry skills among graduates Deficiencies in time management and tress resilience

			Lack of effective evaluation mechanism for student's abilities
What are their learning insights to further improve 2nd classroom leanings	Improve Industry Like simulation and Mentoring Simulate real scenarios Industry mentoring	Continuous improvement of second classroom instruction based on regular evaluation Adaptive learning strategies based on regular evaluation on the effectiveness of the second classroom learning Alignment of second classroom practical activities with the industry needs	Better laboratory facilities, industry linkage and government support Building professional laboratory to enhance student's practical experiences Establish long term cooperation agreement Provision of government incentives to enterprises

Theme 1: Varied Student Experiences
Subtheme 1.1: Diverse Practical Activities

Graduates reported that second classroom initiatives such as community outreach, teaching rural children, and managing local events enabled them to translate theoretical knowledge into actionable skills. For instance, Graduate #6 emphasized improved teamwork and adaptability gained from volunteer work, while Graduate #9 noted, "We transformed financial knowledge into practical skills… laying a solid foundation for our future career." These findings support Ugarte et al. (2021) and Kenaphoom et al. (2024), who assert that such engagements foster problem-solving and civic competence.

Subtheme 1.2: Academic Competitions

Participation in competitions allowed students to develop planning, analytical, and communication skills. Graduate #3 reflected on preparing teaching plans for the National Teaching Skills Competition, while Graduate #7 gained practical technology experience through an AI-based app project. These experiences resonate with Konak et al. (2024), who highlight how such platforms promote teamwork, innovation, and learning motivation.

Subtheme 1.3: Club Activities

Student organizations provided informal yet impactful leadership and collaborative opportunities. Graduates serving in roles such as vice president or project leader described acquiring skills in event planning, market research, and communication. This affirms findings by Sumague (2023) and Kang (2023), noting the developmental value of extracurricular engagements for enhancing social intelligence and career readiness.

Subtheme 1.4: Lectures and Seminars

Lectures by industry professionals enriched students' academic perspectives and career awareness. Graduates emphasized how exposure to digital transformation, enterprise management, and industry trends informed their career decisions. These insights validate the claim by Nuis et al. (2024) and FasterCapital (2022) that industry talks enhance adaptability and critical thinking.

Theme 2: Skill Acquisition and Workplace Readiness
Subtheme 2.1: Technopreneurship Skills

Students acquired entrepreneurial and digital skills through hands-on involvement in competitions and local enterprise development projects. Graduates described experiences in market analysis, data-driven decision-making, and business planning affirming Choi et al. (2024) who emphasized the importance of integrated technopreneurship education.

Subtheme 2.2: Integration of Soft and Hard Skills

Activities fostered communication, leadership, and empathy alongside technical proficiency. Graduates recounted learning stakeholder coordination, team dynamics, and intercultural communication consistent with Haldar (2024), who stresses that hybrid skillsets are essential in today's labor market.

Subtheme 2.3: Innovation and Problem-Solving

Multiple graduates cited real-world problem-solving experiences, such as teaching with limited resources or developing financial risk systems. These narratives reflect Konak et al. (2024), who advocate for innovation-centric education through applied learning.

Subtheme 2.4: Stress Management and Responsibility

Participants noted significant personal growth through deadline-driven and leadership-intensive tasks. As Graduate #10 shared, "I realized the weight of decisions and developed responsibility…" These sentiments align with Yong et al. (2023), highlighting the workplace relevance of resilience training.

Theme 3: Employability Outcomes
Subtheme 3.1: Increased Personal Competitiveness

Graduates attributed hiring success and interview performance to second classroom activities. They showcased business plans, community projects, and volunteer leadership as key differentiators validating Ng et al. (2021), who associate applied learning with job market adaptability.
Subtheme 3.2: Alumni Network Leverage

Alumni connections facilitated interview preparation and job placements. This confirms Letnar et al. (2025), who identify social capital from alumni ties as a pivotal employability asset.

Subtheme 3.3: Technical Proficiency and Industry Readiness

Students acquired domain-specific tools and techniques through competitions and hands-on practice. Business managers confirmed that such exposure minimized onboarding time echoing Li et al. (2025), who report that practical experience enhances adaptability to corporate environments.

Theme 4: Barriers to Engagement

Subtheme 4.1: Team Conflicts

Participants noted interpersonal challenges in collaborative projects, citing poor communication and task delegation. While disruptive, these experiences offered opportunities to build conflict resolution skills, consistent with Kurniawan et al. (2023).

Subtheme 4.2: Limited Faculty Support

Graduates observed minimal guidance from faculty due to staffing shortages, which constrained mentorship and feedback. This reflects Khosravi et al. (2023), who suggest that resource limitations can paradoxically foster self-directed learning.

Subtheme 4.3: Academic-Practical Stress

Balancing academic loads with extracurricular commitments caused stress, affecting participation. These findings align with Lovin et al. (2022), who cite time management as a major student stressor.

Teacher Perspective: Faculty identified two major gaps: (1) insufficient evaluation metrics to assess second classroom learning, and (2) lack of specialized staff and infrastructure. Literature by Zhang et al. (2023) and Yuan et al. (2020) similarly advocate for institutional investment and performance tracking.

Business Perspective: Employers noted deficiencies in graduates' time management and stress tolerance. They also criticized the current evaluation system as overly superficial, favoring participation records over demonstrated skill acquisition (Eisberg, 2024; Li et al., 2020).

Theme 5: Strategic Recommendations

Subtheme 5.1: Real-World Simulation

Graduates emphasized the value of immersive experiences, such as the "Three Goes to the Countryside" project. They advocated for

task-driven, role-based simulations that mirror workplace demands affirming findings by Wolcott et al. (2021) and Pickering et al. (2024).

Subtheme 5.2: Industry Mentorship

Participants recommended more structured engagement with corporate mentors to gain authentic feedback and exposure to industry expectations. Nuis et al. (2024) affirm that mentorship deepens career clarity and skill relevance.

Teacher Perspective: Faculty called for continuous evaluation and data-informed improvement of second classroom activities. They also highlighted the need for alignment with current labor market trends (Sheng, 2024; Bai et al., 2022).

Business Perspective: Employers proposed three structural reforms: (1) investment in joint laboratories for technical skill development, (2) long-term school-enterprise cooperation agreements, and (3) government incentives to support industry participation. These are supported by studies from Zhang et al. (2023), Ma et al. (2024), and Manoharan et al. (2024).

Discussion

This study examined how second classroom practical activities contribute to student employability, drawing on the perspectives of employed graduates, faculty members, and business managers. Findings strongly support the premise that structured co-curricular learning enhances both the technical and non-technical competencies required for professional readiness. These findings align with previous studies suggesting that employability is not only cultivated in formal classrooms but also shaped significantly by experiential learning environments (Kenaphoom et al., 2024; Ugarte et al., 2021).

One of the most compelling insights is the transformative impact of experiential learning on soft skills development communication, leadership, and teamwork. These findings echo Konak et al. (2024) and Haldar (2024), who argued that soft skills are among the most sought-after by employers but least cultivated through traditional curricula. While earlier studies emphasized the acquisition of discrete competencies through isolated interventions, the present study highlights the holistic and sustained development achieved through second classroom engagement, including academic competitions, volunteer work, and student organizations.

Further, this study underscores the critical role of practical simulation in bridging the theory-practice gap. Graduates consistently referenced immersive, project-based learning such as rural revitalization planning or e-commerce design—as the most impactful. This reinforces claims by Pickering et al. (2024) and Wolcott et al. (2021) that simulation-based learning improves students' autonomy, career clarity, and adaptability. However, unlike some literature that assumes direct transfer of skills from practice to employment, this study shows that the benefit is mediated by factors such as faculty support, activity design, and industry alignment.

The emphasis on technopreneurship and interdisciplinary problem-solving further validates the shift in employability literature towards integrative skills. As Choi et al. (2024) noted, students who blend digital fluency with entrepreneurial thinking are better equipped for dynamic labor markets. Graduates in this study demonstrated these capabilities, but they also voiced concerns about limited mentorship and excessive reliance on peer-led learning due to faculty shortages. This signals a need for universities to invest in faculty development and resource allocation to sustain high-impact extracurricular programming an issue raised by Khosravi et al. (2023) and Yuan et al. (2020).

Interestingly, the study identified goal misalignment between academic institutions and industry partners as a persistent challenge. This corroborates critiques by Cirella et al. (2024), who observed that superficial partnerships result in fragmented experiences, undermining the employability value of second classroom activities. Business managers in this study affirmed the need for co-designed programs, systematic evaluation, and long-term cooperation agreements elements often missing in short-term, ad-hoc collaborations. The disconnect between what universities measure (e.g., participation rates) and what employers value (e.g., problem-solving and communication under pressure) exposes a critical weakness in the current evaluation paradigm (Eisberg, 2024).

One area of divergence from prior studies lies in the alumni network's role in employability. While Letnar et al. (2025) emphasized social capital as a passive benefit, this study reveals a more proactive role: alumni not only facilitate job referrals but also guide students through cultural and organizational adaptation. This finding enriches existing frameworks on employability by incorporating relational dimensions and peer mentorship as structural assets.

Despite the promising findings, some limitations must be acknowledged. First, the study is context-specific, focusing on a single university in China, which may limit generalizability. Second, while the qualitative approach provides rich, nuanced insights, it does not quantify the degree of skill improvement or employment outcomes. Future research could employ mixed methods to validate these themes across broader populations and measure longitudinal career trajectories. Additionally, further exploration into gender differences, discipline-specific impacts, and cross-cultural applicability of second classroom models would deepen understanding of how to optimize these interventions.

Conclusions

This study advances the understanding of how second classroom practical activities serve as strategic platforms for developing student employability in higher education. Moving beyond the conventional focus on classroom instruction, the findings underscore that experiential, co-curricular engagements when thoughtfully designed and institutionally supported equip students with the hybrid competencies required in today's dynamic labor markets.

By capturing the perspectives of employed graduates, educators, and industry stakeholders, the research illustrates that second classroom initiatives enhance not only technical proficiency but also critical soft skills such as leadership, adaptability, and collaborative problem-solving. Moreover, the study exposes institutional gaps particularly in faculty capacity, program evaluation, and industry alignment that hinder the full realization of these programs' potential.

Scientifically, the study contributes to the growing literature on experiential and employability-centered learning by emphasizing the need for integrated, simulation-driven, and mentorship-oriented extracurricular designs. Practically, it offers a roadmap for universities seeking to align their co-curricular activities with evolving workforce demands, calling for policy support, long-term school-enterprise agreements, and outcome-based evaluation systems.

Looking forward, future research should validate these findings across diverse institutional contexts using longitudinal and mixed-method approaches. Further inquiry into discipline-specific second classroom models, the role of digital platforms in co-curricular delivery, and the impact of government incentives on industry-university collaboration will strengthen the empirical foundation for scalable employability interventions.

This study positions the second classroom not as a peripheral experience, but as a vital, evidence-based mechanism for bridging education and employment. It reaffirms the imperative to institutionalize second classroom learning within broader educational reform agendas particularly in pursuit of the Sustainable Development Goals for inclusive, quality education and decent work for all.

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Affiliations and Corresponding Information

Nanjue He
Central Philippine University

Renia F. De La Peña
Central Philippine University