Bridging the Gap Between Academia and Industry: Oman National Work Placement Implementation Approach Using Action Research Cycle

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Abstract

This paper examines the design, implementation and challenges of Oman's national work placement initiative as a strategic response to graduate employability challenges and labour market misalignments. Framed within Oman Vision 2040, which emphasises human capital development as a pillar of economic diversification, the programme seeks to bridge the persistent gap between academia and industry by embedding structured, long-term work placements across higher education institutions and industry partners. Grounded in Kurt Lewin's (1946) Action Research (AR) cycle, the study employs an iterative, participatory methodology involving problem diagnosis, planning, implementation and reflection. Mixed methods, including surveys, observations and performance metrics, were used to capture the perspectives of students, academia and employers. Findings demonstrate that while traditional short-term internships offer limited exposure (Al-Lamki, 2002; Jackson, 2015; Reddy & Moores, 2012), structured placements provide more meaningful opportunities for skills development, academic improvement and professional readiness. At the same time, the initiative encountered significant challenges, including time-intensive cycles, complex stakeholder coordination, scalability across diverse institutions, limited organisational development frameworks and data collection constraints. These challenges highlight the realities of scaling participatory reform in contexts requiring sustained collaboration between universities, industry and government. The National work placement Program represents a regionally pioneering model of work-integrated learning, distinguished as the only long-term national framework that unites all higher education institutions in Oman under a single, coordinated structure to deliver standardised, large-scale work placement opportunities across multiple sectors. The paper concludes that the Action Research approach offers a robust and adaptive framework for institutionalising work-integrated learning in Oman.

Keywords: Oman, action research, learning, collaboration

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Introduction

This paper outlines the approach used to implement Oman's national work placement initiative and examines the challenges encountered during its development and expansion. Conceived as a structured, long-term work placement programme, the work placement represents a pioneering attempt to institutionalise work-integrated learning (WIL) across Oman's higher education sector. The initiative was designed to address a persistent gap between academic outputs and labour market needs, a challenge that has long affected graduate employability and national workforce readiness (Al-Abri et al., 2024; Al Harrasi & Al Subhi, 2024; Al Weshahi, S., 2022).

Oman Vision 2040 emphasises the strategic importance of human capital development, positioning education and skills as central to economic diversification and global competitiveness (Oman Vision 2040). Despite steady growth in higher education enrolment and graduation rates, many young Omanis face structural barriers to employment, including limited exposure to industry environments, weak academia-industry linkages and misalignments between academic curricula and labour market requirements (Kroen, T. (2024). Traditional short-term internships, while offering limited exposure, have proven insufficient in equipping graduates with the competencies needed for sustainable careers in a rapidly changing economy (Al-Lamki, 2002; Jackson, 2015; Reddy & Moores, 2012).

Against this backdrop, the work placement was launched in partnership with Petroleum Development Oman (PDO), the Ministry of Education (MoE), higher education institutions and a wide range of industry stakeholders. Unlike ad hoc internship schemes, the work placement is built on an Action Research (AR) framework that allows for iterative planning, implementation, observation and reflection. This methodology supports continuous learning, stakeholder engagement and evidence-based improvements, making it particularly well suited to national-level reforms in education and workforce development (Lewin, 1946; McNiff & Whitehead, 2010).

The implementation of the work placement has been both ambitious and complex. On the one hand, the programme has successfully demonstrated how structured placements can enhance graduate employability, strengthen academia-industry collaboration and contribute directly to Oman's economic diversification agenda. On the other hand, it has also revealed significant challenges related to time-intensive cycles, stakeholder coordination, scalability, organisational readiness and data collection. These challenges highlight the realities of translating theory into practice at scale and highlight the importance of adaptive, participatory methodologies in sustaining long-term impact.

Accordingly, this paper pursues two main objectives:

1. To present the methodological approach used to design and implement the initiative as a national work placement programme.
2. To critically examine the key challenges faced during the programme's development and expansion, with a view to informing both policy and practice in Oman and beyond.

By documenting the work placement journey, this paper contributes to both local and international debates on the role of work-integrated learning in enhancing graduate employability and supporting economic transformation. It offers practical insights into how Action Research can be applied to higher education reform in contexts where academia, industry and government must work together to achieve sustainable change.

Complementing this practical implementation, a Doctor of Business Administration (DBA) research project was undertaken to critically examine the underlying issues and contribute to evidence-based improvements in policy and practice. The research aims to provide a structured, professional and scholarly analysis of the program's design, execution and impact, thereby supporting the development of sustainable solutions that are empirically grounded and aligned with Oman's broader national development objectives.

Literature Review

Workplace Learning Through Action Research and Action Learning

In the context of Oman's higher education system, the application of action research to workplace learning for pre-final year undergraduates is highly relevant. Action research, as originally conceptualised by Lewin (1946), emphasises a cyclical process of planning, acting, observing and reflecting, making it an ideal methodology for investigating and improving the design and implementation of work placement programs. This methodology allows educators and industry stakeholders to collaborate closely, iterating on solutions that address the specific needs of students and employers.

Best practices in action research emphasise stakeholder engagement, iterative improvement and real-world problem-solving as foundational principles for designing and implementing workplace learning interventions. Recent studies highlight the effectiveness of participatory and cyclical processes in enhancing reflective learning and sustainable outcomes. For instance, Afzal and Tumpa (2025) demonstrated that iterative, action-research-based project learning enhanced teamwork, adaptability and decision-making skills among postgraduate project management students. Similarly, Gilbertson et al. (2024) found that collaborative action research between universities and schools improved capacity-building, professional learning and systemic improvement in teacher induction programs. In agricultural education, Guo et al. (2025) highlighted the importance of sustained stakeholder engagement and feedback cycles in improving research relevance and practical application.

In their work, Vannasy and Sengsouliya (2023) highlighted the importance of understanding workplace learning as influenced by both external and internal processes. One of the best models in action research is the integration of Illeris's learning model (2004), which links external social and cultural interactions with internal psychological processes, provides a robust foundation for designing effective workplace learning environments. The model emphasises that learning is both an individual and social process, making it particularly relevant to work placements where students engage with professionals and navigate real-world challenges. Contemporary research supports the applicability of Illeris's framework within workplace learning contexts. Knud Illeris (2004) conceptualises learning as an interaction between cognitive, emotional, and social dimensions, which has been widely applied to understand learning in professional environments. Similarly, Zhao and Ko (2018) highlight the value of such integrative frameworks in explaining professional identity development within vocational education. In addition, Jackson (2015) emphasises the critical role of supportive workplace environments, mentorship, and organisational culture in shaping students' learning outcomes and employability during work-integrated learning experiences.

Moreover, Kolb's Experiential Learning Theory (ELT) (1984) plays a significant role in shaping workplace learning strategies. ELT posits that learning occurs through a cycle of concrete experience, reflective observation, abstract conceptualisation and active

experimentation. For pre-final year undergraduates in Oman, workplace placements offer the opportunity to progress through these stages, from engaging in hands-on tasks to reflecting on their experiences and applying theoretical knowledge in practical contexts. By structuring work placements to align with Kolb's experiential learning cycle, educators can enhance students' ability to internalise and apply the skills required for the future labour market.

Scholars have highlighted the value of combining Experiential Learning Theory (ELT) with the Social Cognitive Career Theory (SCCT) to better understand and enhance workplace learning experiences. ELT emphasises the cyclical process of learning through concrete experience, reflection, conceptualisation and experimentation (Kolb, 1984), while SCCT explains how individuals' career interests and choices are shaped by self-efficacy beliefs, outcome expectations and personal goals (Lent et al., (1994). SCCT has also been widely applied to explore career decision self-efficacy and employability skills development among students (Lent & Brown, 2013). For Omani students, integrating these two frameworks offers a useful lens for educators and employers to assess how work placements influence students' confidence in their career choices and their readiness for the job market.

Key Best Practices in Action Research for Workplace Learning

1. Collaborative Design: Action research involves close collaboration between academic institutions and industry partners. To ensure that work placements are effective, it is essential to involve employers in the program design phase. This collaboration ensures that students gain exposure to the skills and competencies that are most relevant to the local job market, thus enhancing the alignment between academic preparation and industry needs (Reason & Bradbury, 2008).
2. Iterative Feedback: A critical element of action research is its cyclical nature, allowing for continuous refinement of the work placement program. Regular feedback from students, faculty and industry supervisors should be collected and analysed after each cycle to inform subsequent iterations of the program. This process promotes continuous improvement and ensures that the program remains responsive to both student needs and industry developments (Kemmis et al., 2014).
   Empirical evidence indicates that structured feedback cycles substantially enhance learning effectiveness in applied and professional education contexts. Von Pressentin et al., (2016) demonstrated that participatory action research, which integrates regular reflection and collaborative inquiry, significantly improves the quality and relevance of workplace learning for medical students. Similarly, Lefroy et al., (2021) found that iterative feedback discussions combined with reflective writing fostered deeper learner engagement and professional growth. In higher education, van der Stappen and Baartman (2018) confirmed that embedding feedback loops within digital learning environments enhances adaptability and self-regulated learning, while Singh et al. (2024) reported that iterative student feedback mechanisms improve both academic performance and well-being in flexible learning contexts.
3. Work placements should be structured in alignment with Kolb's Experiential Learning Cycle, ensuring that students engage in a continuous process of concrete experience, reflective observation, abstract conceptualisation and active experimentation (Kolb, 1984). Students should be encouraged to engage in reflective practice during and after their placements, ensuring that they critically assess their experiences and understand how their theoretical knowledge applies in practical settings. Structured reflection sessions, such as debriefs or reflective journals, can facilitate this process (Moon, 2013).

4. Development of Employability Skills: As highlighted by Tynjälä, P. (2022), work placements should focus not only on technical skills but also on career decision self-efficacy and employability skills such as teamwork, communication and leadership. These soft skills are critical for success in the modern workforce and should be embedded into the work placement experience.
5. Cultural and Social Adaptation: Illeris's (2004) model emphasises the importance of the socio-cultural environment in learning. Work placements should be designed to expose students to the cultural norms and expectations of the workplace. In the context of Oman, this could involve sensitising students to local business practices and the broader socio-economic goals of Omanisation, thus helping students navigate the transition from academia to industry while contributing to national objectives.
6. Evaluation and Continuous Improvement: Following the completion of each placement cycle, a thorough evaluation should be conducted. This includes assessing the impact of the program on students' learning outcomes, career decision-making and employability. Action research encourages reflection not only on the part of students but also on the program itself, facilitating continuous improvements based on data-driven insights.

Key Theoretical Foundations for Work Placement Research

The design and implementation of structured work placement programs draw heavily on established theories of learning, career development and organisational change. These frameworks provide the conceptual foundation for understanding how students acquire knowledge, develop employability skills and transition into the labour market. Seminal contributions from scholars in action research, experiential learning, workplace learning and career theory offer critical insights into how internships and placements can be optimised for maximum impact. The following key scholars have been especially influential in shaping the theoretical underpinnings of work placement initiatives:

- Kolb, D. A. (1984): Kolb's Experiential Learning Theory is central to understanding how students learn through workplace placements. His model advocates for learning as a continuous process that is grounded in experience, making it highly relevant to the design of work placement programs.
- Illeris, K. (2004): Illeris's learning model highlights the importance of both internal cognitive processes and external social interactions in workplace learning. His work emphasises the need for an integrative approach to learning in practical environments, which aligns with the goals of action research in higher education.
- Lent et al., (1994): Social Cognitive Career Theory (SCCT) provides a framework for understanding how students' beliefs about their career paths are shaped during work placements, influencing their future career decisions and employability.

By integrating these best practices and theoretical frameworks, the application of action research to Oman's work placement program has led to significant improvements in student learning, employability and alignment with the needs of the local job market.

Examples of Global Studies and Best Practices

International experience demonstrates that well-structured work placement plays a critical role in enhancing graduate employability and aligning higher education with labour market needs. Countries such as Germany, the United Kingdom, Malaysia and Singapore provide evidence-based models that integrate academic learning with professional practice through curriculum

integration, extended placements, dual supervision, quality assurance and strong university-industry collaboration.

Germany's Dual Education System is widely regarded as a benchmark for vocational and professional training, combining theoretical instruction with structured industry apprenticeships. Its success is attributed to coordinated governance involving public authorities, industry associations and employers, ensuring curriculum relevance, skills recognition and consistent quality assurance (Deissinger & Hellwig, 2005; Gessler, 2017).

In the United Kingdom, "sandwich courses" integrate year-long, credit-bearing work placements within degree programs. Empirical evidence shows that these placements significantly enhance employability, workplace confidence and transferable skills such as communication, teamwork and problem-solving (Brooks & Youngson, 2016; Helyer, 2011). The UK model demonstrates the value of embedding experiential learning formally within academic curricula.

Malaysia has institutionalised work-based learning (WBL) and long-term internships as part of a national strategy to improve graduate outcomes. Guided by the Malaysia Education Blueprint 2015-2025 (Ganapathy, M., 2016), universities have embedded structured industrial training and extended internship programmes within their curricula, often under joint academic-industry supervision. Empirical evidence indicates that these initiatives help bridge the theory-practice gap and enhance graduates' technical competence, soft skills, motivation, and employability (Jackson, 2015; Omar et al., 2012; Rasul et al., 2013). Malaysia's experience reflects a deliberate national approach to embedding employability and experiential learning within higher education (Mustapha, 2017).

Singapore offers a well-established example of effective work-integrated learning (WIL) through its polytechnic system and national skills development initiatives. Policy frameworks such as SkillsFuture emphasise structured internships, strong industry collaboration and alignment between education and workforce needs (Ministry of Education Singapore, 2018). Research indicates that well-designed WIL programmes, characterised by clearly defined learning outcomes, extended placement duration, and active employer engagement, significantly enhance students' workplace readiness, professional identity, and overall employability (Ferns & Lilly, 2015; Jackson, 2015). Furthermore, Singapore's emphasis on coordinated governance and sustained partnerships between educational institutions and industry stakeholders has been identified as a key factor supporting the scalability and long-term sustainability of its model (Tan et al., 2017).

Across these contexts, several common success factors emerge, including robust governance and stakeholder collaboration, effective curriculum integration and credit recognition, extended placement durations (typically six to twelve months), dual academic-industry supervision, and competency-based assessment linked to employability outcomes (Ferns & Lilly, 2015; Helyer, 2011; Jackson, 2015; Reddy & Moores, 2012). Collectively, the evidence confirms that structured, long-term internships are effective mechanisms for bridging the gap between education and employment. Oman's National Work Placement Programme reflects these international best practices and aligns with national priorities such as Oman Vision 2040 by supporting workforce readiness, economic diversification, and the development of a competitive knowledge-based economy.

Methodology

Research Design

This study adopted a qualitative research design to explore the design and implementation of the work placement Programme and to understand how it aligns with both the academic context in Oman and the evolving needs of the national job market.

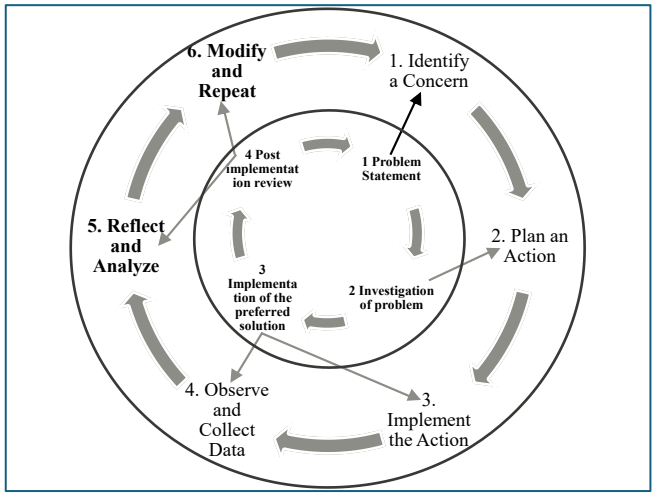
Research Approach

The implementation of the national work placement programme was guided by a four-stage adaptation of Lewin's (1946) Action Research (AR) cycle. Each phase was designed to address Oman's specific challenges of graduate employability and academia-industry alignment, while ensuring that outcomes were continuously reviewed and adapted to evolving needs. The AR approach provided both a methodological and philosophical foundation for iterative problem-solving, stakeholder engagement and evidence-based refinement.

Lewin's (1946) four-stage model was enhanced as shown in the figure 1 below by adding additional stages: observation and data collection as part of the implementation phase and reflect, analyse and modify, repeat as part of the post-implementation phase.

This enhancement was introduced to strengthen the model's applicability to contemporary programme implementation and evaluation. The inclusion of observation and data collection ensures that decisions during implementation are informed by real-time evidence and stakeholder feedback, allowing for greater responsiveness and accuracy in assessing progress. Similarly, the (reflect, analyse) and (modify, repeat) stages were added as part of the post implementation stage to promotes continuous improvement by encouraging critical evaluation of outcomes, identification of lessons learnt and adjustment of strategies based on evidence.

Figure 1
Adopted Action Research Cycle



Stage 1: Problem Diagnosis

The first stage focused on diagnosing systemic issues in Oman's higher education and employment ecosystem. A diagnostic study identified several barriers affecting graduate

employability and academia-industry collaboration, consistent with local reports (Oman Vision 2040, 2019) and international scholarship on graduate skills mismatches (Jackson, 2015).

Key concerns included:

- Weak linkages between universities and industry, with limited employer participation.
- A mismatch between academic output and labour market requirements.
- Graduates lacking essential professional and industry-relevant skills, particularly communication, adaptability and problem-solving (Al-Lamki, 2002).
- Reliance on short-term internships that offered limited skill development (Reddy & Moores, 2012).
- The need for structured initiatives that directly support Oman's economic diversification under Vision 2040 (Kroen, T. [IMF, 2024]).

The primary goal of this stage was to clearly articulate the problem, ensuring it was significant enough to warrant national-level intervention.

Stage 2: Planning the Intervention

The second stage consisted of participatory planning, in which academia, industry and government stakeholders co-developed actionable strategies. Consistent with AR principles of collaboration (Kemmis et al., 2014), the planning process emphasised inclusivity and adaptability.

Objectives defined at this stage included:

1. Supply and Demand Alignment: Matching interns majors with future job roles.
2. Capability Building: Enhancing both technical and soft skills through structured development framework.
3. Employability Index: Enhances Oman's employability index because of the integration of a one-year academic work placement, providing students with practical experience that strengthens their skills, increases job readiness and improves overall graduate employability at the national level.
4. Global Recognition: Aligns with Oman Vision 2040, which aspires to develop a highly skilled national workforce capable of competing locally, regionally and globally.

Key action plans involved:

- Developing a national work placement strategy and framework.
- Defining participation criteria, quality assurance measures and placement guidelines.
- Engaging stakeholders through workshops and consultation sessions.
- Establishing a multi-stakeholder working team with representation from academia, industry and PDO.
- Securing financial support, policy endorsement and ministerial approval.
- Preparing an execution plan based on a phased approach, starting with pilot institutions and disciplines.

This stage laid the foundation for structured action, ensuring that interventions were evidence-based, feasible and aligned with stakeholder expectations.

Stage 3: Implementation

The third stage represented the action phase, in which the planned work placement programme was piloted. Implementation initially targeted five academic institutions and five host organisations, with a focus on the Engineering discipline as a starting point.

Key features of the pilot included:

- Phased Rollout: Limiting the initial scope allowed for controlled testing and refinement before scaling nationally.
- Development Framework: A competency-based framework was created to guide industry supervisors and ensure structured learning outcomes.
- Digital E-Portal: A customised platform was built to support student allocation, tracking, feedback collection and real-time monitoring.
- Feedback Loops: Surveys captured perspectives from students, academia and employers during the pilot.
- Gradual Expansion: Following the pilot, the programme was scaled incrementally, integrating lessons learned and refining processes.

Implementation emphasised not only operational delivery but also the creation of systems that could be sustained nationally.

Stage 4: Observation and Data Collection

Observation and data collection formed a critical element of the AR cycle. Consistent with mixed methods approaches in WIL evaluation (Gomez et al., 2004), data were collected through multiple channels:

- Surveys: Quantitative and qualitative feedback from students, employers and academia.
- Workplace Observations: Monitoring interns' integration into host organisations and their engagement with professional tasks.
- Performance Metrics: Analysis of academic performance post-placement, employer evaluations and student self-assessments of skills.

This stage ensured that evidence, rather than assumptions, informed decisions regarding programme effectiveness and areas for refinement.

Stage 5: Reflection and Review

The fifth stage consisted of systematic analysis of the collected data. Findings indicated strong satisfaction among students and industry partners, alongside measurable improvements in academic performance, employability skills and professional readiness. Key reflections included:

- Positive impact on students' confidence, teamwork and problem-solving.
- Academic staff reporting improved classroom performance among returning students.
- Industry feedback confirming stronger job readiness and long-term employability potential.
- Identification of weaknesses in entry assessments, internship allocation and mentoring consistency across organisations.

These reflections highlighted both achievements and areas requiring further development.

Stage 6: Modification and Continuous Improvement

The final stage emphasised adaptive refinement, consistent with AR's iterative philosophy (Lewin, 1946; McNiff & Whitehead, 2010).

Key modifications included:

- Designing and developing a standalone E-Portal with expanded functionalities, including a job–major mapping module.
- Proposing adjustments to entry assessments to better reflect employability skills.
- Expanding placements to all higher education institutions in Oman, beyond the pilot.
- Introducing an Essential Skills Competency Framework to ensure consistency of soft skills development.
- Exploring the unification of credit hours to standardise academic recognition of placements.
- Increasing automation of processes to reduce administrative burden and enhance efficiency.

Through these modifications, the initiative evolved into a national framework for structured work placements, capable of scaling sustainably while retaining adaptability.

The application of AR to the work placement programme illustrates how iterative cycles of diagnosis, planning, implementation, observation, reflection and modification can enable continuous learning and improvement. Each stage was designed to be self-contained yet interconnected, ensuring that outputs from one cycle directly informed the next. This recursive process allowed the initiative to remain responsive to stakeholder needs while aligning with national policy goals.

Application of Learning Theories to Oman Work Placement

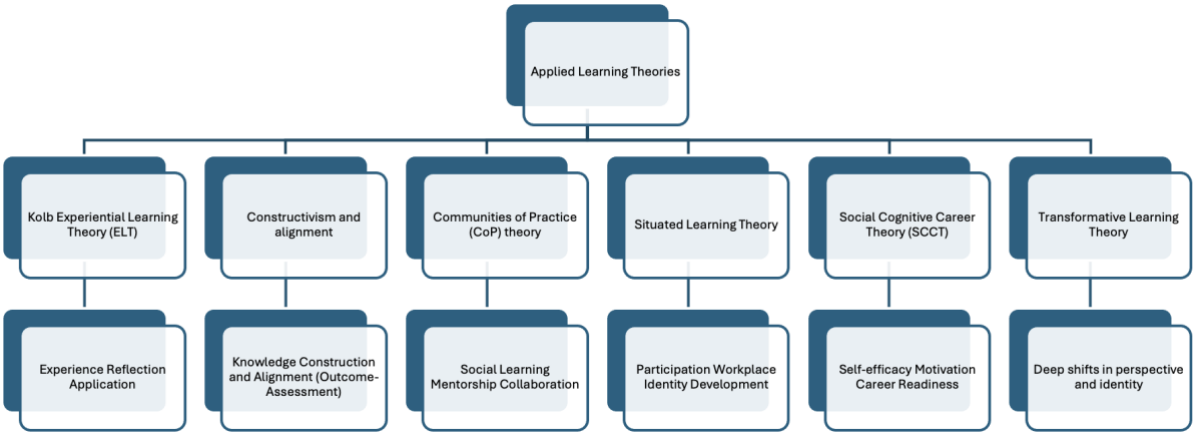
This section develops an integrated theoretical framework (Figure 2) to examine the learning processes underpinning the Oman National Work Placement Programme. While individual learning theories provide valuable insights, relying on a single perspective risks oversimplifying the complexity of work-integrated learning (WIL) environments (Billett & Henderson, 2011; Jackson, 2015). Therefore, this study adopts a multi-theoretical approach, combining experiential, transformative, social and constructivist perspectives to offer a more comprehensive understanding of workplace learning.

The framework moves beyond a narrow focus on skill acquisition to explore the interaction between experience, reflection, social participation and identity development. It recognises workplace learning as a dynamic, context-dependent process shaped by cognitive, social and organisational factors (Illeris, 2004; Lave & Wenger, 1991). In doing so, it positions learning as both an individual and collective process, while highlighting the role of structured programme design in influencing learning outcomes (Biggs, 2012).

Through this lens, the framework enables a deeper analysis of how the work placement supports not only competency development but also professional identity formation, adaptability and long-term employability. It thus provides a strong conceptual foundation for evaluating work placement initiatives in complex real-world contexts, where experiential and reflective learning are central to meaningful outcomes (Mezirow, 2000; Ryan & Ryan, 2013).

Figure 2

Integrated Theoretical Framework Illustrating How Learning Theories Collectively Inform the Design and Outcomes of the Oman National Work Placement Programme



Experiential Learning Theory (ELT) (Kolb, 1984) provides a foundational framework for understanding learning in work placements, conceptualising it as a cycle of experience, reflection, conceptualisation and experimentation. This approach emphasises the integration of practice and reflection, enabling students to apply theoretical knowledge in professional contexts. Evidence suggests that such approaches enhance adaptability and support the development of professional identity (Billett & Henderson, 2011; Jackson, 2015; Kolb, 1984; Moon, 2013). In the work placement, these principles are embedded through mentorship, competency frameworks and reflective evaluations.

Complementing this, Social Cognitive Career Theory (SCCT) (Lent et al., 1994) explains how self-efficacy and outcome expectations shape career development. Work placements strengthen students' confidence and employability, with research linking WIL to improved career readiness (Okolie et al., 2020). This is particularly relevant in Oman, where employability is a national priority.

Situated Learning Theory (Lave & Wenger, 1991) emphasises learning through participation in authentic work environments, where students progress from peripheral to active contributors. This process enhances collaboration, a sense of belonging and professional identity formation. In work placements, students are embedded within professional teams, where they learn through participation in real tasks and interactions within workplace communities (Billett & Henderson, 2011; Jackson, 2015; Lave & Wenger, 1991).

Similarly, Communities of Practice (Wenger, 1999) highlight the role of social learning through mentorship, collaboration and shared practice. Engagement in such communities supports the development of professional norms and facilitates students' transition into the workplace (Eames & Cates, 2011; Smith, 2012).

Constructivist theory (Vygotsky, 1978) further emphasises active, contextualised learning, while Biggs' (2012) concept of constructive alignment ensures coherence between learning outcomes, activities and assessment. Evidence suggests that aligned WIL programmes produce stronger learning outcomes (Shibani & Buck, 2022).

Finally, Transformative Learning Theory (Mezirow, 2000) explains how work placements can reshape students' perspectives through critical reflection. Exposure to unfamiliar professional

environments challenges assumptions, leading to increased self-awareness, adaptability and identity development (Jackson, 2015). In work placement, this is supported through structured reflection, mentoring and feedback, enabling students to transition towards professional readiness.

Key Challenges Faced in Implementing Oman's National Work Placements Using Action Research

While action research provides a flexible and participatory framework for developing national work placement initiative, its implementation presents several structural, logistical and procedural challenges. Based on the iterative cycles of this study, the key challenges are summarised below.

Time-Intensive Cyclical Process

A major limitation of action research is its time-intensive nature. The cyclical process of planning, implementation, observation and reflection requires sustained coordination and delays measurable outcomes. Studies highlight that such iterative approaches demand extended timelines due to continuous stakeholder engagement and adaptation (Black, 2020; Hudson et al., 2015; Schonenberg et al., 2018; Von Pressentin et al., 2016).

In the work placement, this challenge is amplified by phased implementation, where each expansion stage requires evaluation and refinement. The gradual onboarding of institutions, students and industry partners, while necessary for sustainability, significantly extends timelines and resource demands.

Complex Stakeholder Coordination

Coordinating multiple stakeholders across academia, industry and government is inherently complex. Effective work-integrated learning requires clear roles, shared goals and sustained collaboration, which are often difficult to achieve (Ali & Haapasalo, 2023; Oonk et al., 2022; Wait & Govender, 2016).

In the implementation, initial resistance emerged due to the introduction of long-term placements, a novel concept in Oman. Institutions expressed concerns regarding curriculum alignment and administrative readiness. Continuous engagement, trust-building and the establishment of a dedicated cross-sector working group were essential in overcoming these barriers and ensuring alignment.

Scalability of Participatory Approaches

Scaling action research-based initiatives presents challenges in maintaining consistency and quality across diverse institutions. Participatory approaches, while effective locally, are resource-intensive and difficult to standardise (Murphy et al., 2019; Pratt et al., 2024; Sommer et al., 2025; Von Pressentin et al., 2016).

As the work placement expanded, variations in institutional capacity and credit systems created inconsistencies. Additionally, onboarding new industry partners, many lacking structured training frameworks, required intensive support. A phased pilot-to-scale approach helped manage this complexity, enabling gradual national expansion while maintaining quality.

Absence of Organisational Development Frameworks

A critical challenge was the lack of structured learning and development frameworks within many host organisations. The absence of onboarding processes, mentoring systems and competency-based training limited the quality and consistency of student experiences.

This issue is widely documented, with studies showing that weak organisational structures undermine internship effectiveness (Ferns & Lilly, 2015; Ko & Tsai, 2025; Rianto et al., 2022; Virolainen et al., 2011). In response, we introduced guidelines, training support and national frameworks to promote structured workplace learning, though ongoing cultural and organisational change remains necessary.

Limited Placement Capacity and Sponsorship

Securing sufficient placement opportunities remains a significant constraint. Employer participation is often limited by resource constraints, lack of incentives and supervisory demands (Jackson et al., 2017; Naqvi, 2025; Thi Ngoc Ha et al., 2022).

In work placement, formal agreements with companies and increased awareness of programme benefits have helped expand participation. However, ensuring equitable and sustainable placement availability across sectors continues to be a challenge.

Data Collection and Feedback Limitations

Action research depends on timely and reliable feedback, yet data collection from students, supervisors and employers is often delayed or incomplete. This limits real-time evaluation and continuous improvement (Jellicoe & Forsythe, 2019; Winstone et al., 2022).

To address this, digital tools, mobile communication was utilised and follow-ups to improve response rates. However, maintaining consistent stakeholder engagement in feedback processes remains an ongoing issue.

Cultural Expectations and Student Participation

Cultural perceptions linking higher education directly to employment discourage participation in long-term internships. In Oman, internships may be viewed as delaying graduation, leading to resistance from students and families (Baker-Kelly & Al Hadhrami, 2025).

Similar challenges are observed globally, where socio-cultural and economic factors influence engagement in experiential learning (Chang & Utsumi, 2024; European Commission, 2022; Hora et al., 2019). To address this, the initiative was promoted through awareness campaigns and highlights the employability benefits of work placements to shift perceptions.

Conclusion

The national work placement programme represents a significant national effort to align higher education with labour market needs and support Omanisation by enhancing graduate employability. A key achievement is the establishment of a unified national framework and strong collaboration between academic institutions and industry.

The study demonstrates that structured, long-term work placements improve students' readiness for employment. Using Lewin's (1946) action research cycle, the programme provides a practical model for continuous improvement and stakeholder collaboration.

However, scaling such initiatives requires more than iterative development. Long-term sustainability depends on embedding supportive policies, standardised frameworks and institutional capacity across both academia and industry.

Overall, the national work placement serves as a scalable model for integrating work-based learning into higher education systems. Its national scope and collaborative approach position it as a benchmark for countries seeking to strengthen human capital development and bridge the gap between education and employment.

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Declaration of Generative AI and AI-Assisted Technologies in the Writing Process

The author declares that Grammarly Consensus software was used in proofreading and refining the language used in the manuscript. The usage was limited to correcting grammatical and spelling errors and rephrasing statements for accuracy and clarity. The author further declares that, apart from Grammarly, no other AI or AI-assisted technologies have been used to generate content in writing the manuscript. The ideas, design, procedures, findings, analyses, and discussion are originally written and derived from careful and systematic conduct of the research.

References

Afzal, F., & Tumpa, R. J. (2025). Project-based group work for enhancing students' learning in project management education: An action research. *International Journal of Managing Projects in Business, 18*(1), 189–208.

Al-Abri, M., Denman, C., Al Alawi, M., & Al Ajmi, M. (2024). Enhancing employability through university–industry linkages: Omani engineering students' perspectives of the Eidaad internship programme. *Humanities and Social Sciences Communications, 11*(1), 565.

Al Harrasi, N., & Al Subhi, N. (2024). Determinants of effective university–industry collaboration: An empirical study of Oman's higher education institutions. *Cogent Education, 11*(1), 2387951.

Ali, F., & Haapasalo, H. (2023). Development levels of stakeholder relationships in collaborative projects: Challenges and preconditions. *International Journal of Managing Projects in Business, 16*(8), 58–76.

Al-Lamki, S. M. (2002). Higher education in the Sultanate of Oman: The challenge of access, equity and privatization. *Journal of Higher Education Policy and Management, 24*(1), 75–86.

Al Weshahi, S. J. S. (2022). The impact of university–industry collaboration and its relevance to technical higher education in Oman. *Global Journal of Human Resource Management, 10*(6), 15–22.

Baker-Kelly, B., & Al Hadhrami, H. S. (2025). Sustainable development of academia and industry: The role of internships and the Eidaad program. In B. Awwad (Ed.), *AI and IoT: Driving business success and sustainability in the digital age* (Vol. 590). Springer.

Biggs, J. (2012). What the student does: Teaching for enhanced learning. *Higher Education Research & Development, 31*(1), 39–55.

Billett, S., & Henderson, A. J. (Eds.). (2011). *Developing learning professionals: Integrating experiences in university and practice settings* (Vol. 7). Springer Science & Business Media.

Black, G. L. (2020). Implementing action research in a teacher preparation program: Opportunities and limitations. *The Canadian Journal of Action Research, 21*(2), 47–71.

Brooks, R., & Youngson, P. L. (2016). Undergraduate work placements: An analysis of the effects on career progression. *Studies in Higher Education, 41*(9), 1563–1578.

Chang, C.-H., & Utsumi, Y. (2024). The impact of international internships on Japanese undergraduates' learning outcomes. *Education + Training, 66*(7), 890–906.

Deissinger, T., & Hellwig, S. (2005). Apprenticeships in Germany: Modernising the dual system. *Education + Training, 47*(4–5), 312–324.

Eames, C., & Cates, C. (2011). Theories of learning in cooperative and work-integrated education. In R. K. Coll & K. E. Zegwaard (Eds.), *International handbook for cooperative and work-integrated education: International perspectives of theory, research and practice* (2nd ed., pp. 41–52).

European Commission. (2022). *Council recommendation on transnational cooperation and higher education mobility*. European Parliament.

Ferns, S., & Lilly, L. (2015). Driving institutional engagement in WIL: Enhancing graduate employability. *Journal of Teaching and Learning for Graduate Employability, 6*(1), 126–143.

Ganapathy, M. (2016). Transformation of Malaysia's higher education system: Malaysia Education Blueprint (2015–2025). *Bulletin of Higher Education Research, 5*(1), 10–11.

Gessler, M. (2017). The lack of collaboration between companies and schools in the German dual apprenticeship system: Historical background and recent data. *International Journal for Research in Vocational Education and Training, 4*(2), 164–195.

Gilbertson, E., Murphy, A., Janis, S., Thompson, K., & Harris, M. (2024). Sustaining induction teachers through partnerships: Action research as a catalyst for change within complex contexts. *School-University Partnerships, 17*(4), 365–385.

Gomez, S., Lush, D., & Clements, M. (2004). Work placements enhance academic performance. *Journal of Vocational Education & Training, 56*(3), 373–385.

Guo, T., Marquart-Pyatt, S., Ulbrich, T., Doll, J. E., Wilke, B., & Robertson, G. P. (2025). Assessing the impacts of stakeholder involvement in long-term agricultural experiments via a case study in the upper US Midwest. *Agronomy Journal, 54*(5), 1202–1213.

Helyer, R. (2011). Aligning higher education with the world of work. *Higher Education, Skills and Work-Based Learning, 1*(2), 95–105.

Hora, M. T., Wolfgram, M., & Chen, Z. (2019). *Closing the doors of opportunity*. Wisconsin Center for Education Research.

Hudson, J. N., Farmer, E. A., Weston, K. M., & Bushnell, J. A. (2015). Implementing innovation in medical education. *BMC Medical Education, 15*(1), 2.

Illeris, K. (2004). A model for learning in working life. *Journal of Workplace Learning, 16*(8), 431–441.

Jackson, D. (2015). Employability skill development in work-integrated learning: Barriers and best practice. *Studies in Higher Education, 40*(2), 350–367.

Jackson, D., Rowbottom, D., Ferns, S., & McLaren, D. (2017). Employer understanding of WIL. *Studies in Continuing Education, 39*(1), 35–51.

Jellicoe, M., & Forsythe, A. (2019). Feedback in learning scale. In *Frontiers in Education* (Vol. 4).

Kemmis, S., McTaggart, R., & Nixon, R. (2014). *The action research planner*. Springer.

Ko, C. F., & Tsai, C. F. (2025). Tourism and hospitality internships in higher education: A conceptual framework to implementation. *Pakistan Journal of Life & Social Sciences, 23*(1).

Kolb, D. A. (1984). *Experiential learning*. Prentice Hall.

Kroen, T. (2024). *Monetary policy transmission in Oman*. International Monetary Fund.

Lave, J., & Wenger, E. (1991). *Situated learning*. Cambridge University Press.

Lefroy, J., Walters, B., Molyneux, A., & Smithson, S. (2021). Can learning from workplace feedback be enhanced by reflective writing? A realist evaluation in UK undergraduate medical education. *Education for Primary Care, 32*(6), 326–335.

Lent, R. W., & Brown, S. D. (2013). Career self-management model. *Journal of Counseling Psychology, 60*(4), 557–568.

Lent, R. W., Brown, S. D., & Hackett, G. (1994). Social cognitive career theory. *Journal of Vocational Behavior, 45*(1), 79–122.

Lewin, K. (1946). Action research and minority problems. *Journal of Social Issues, 2*(4), 34–46.

McNiff, J., & Whitehead, J. (2010). *You and your action research project* (3rd ed.). Routledge.

Mezirow, J. (2000). *Learning as transformation*. Jossey-Bass.

Ministry of Education Singapore. (2018). *Enhanced internship framework (EIF)*. Government of Singapore.

Moon, J. A. (2013). *Reflection in learning and professional development: Theory and practice*. Routledge.

Murphy, K., Parnell, T., Pope, R., Hughes, C., Biles, J., Bramble, M., O'Connor, S., Curtin, M., Speedie, L., & Plowman, E. (2019). Improving evidence-based practice education in healthcare courses: A participatory action research multiple-case study. In *Proceedings of the Fifth International Conference on Higher Education Advances* (pp. 605–614). Universitat Politecnica de Valencia.

Mustapha, R. B. (2017). Skills training and vocational education in Malaysia. In *Education in Malaysia: Developments and challenges* (pp. 137–153). Springer.

Naqvi, J. (2025). Post-COVID internships. *Industry and Higher Education, 39*(5), 492–503.

Okolie, U. C., Igwe, P. A., Nwosu, H. E., Eneje, B. C., & Mlanga, S. (2020). Enhancing graduate employability: Why do higher education institutions have problems with teaching generic skills? *Policy Futures in Education, 18*(2), 294–313.

Oman Vision 2040. (2019). *Vision 2040 document*. Government of Oman.

Omar, N. H., Manaf, A. A., Mohd, R. H., Kassim, A. C., & Abd Aziz, K. (2012). Graduates' employability skills based on current job demand through electronic advertisement. *Asian Social Science, 8*(9), 103.

Oonk, C., Gulikers, J., den Brok, P., & Mulder, M. (2022). Boundary crossing learning. *International Journal of Sustainability in Higher Education, 23*(8), 21–40.

Pratt, S., Heggart, K., Christensen, P. H., & Sankaran, S. (2024). Participatory action research in HDR. *Systemic Practice and Action Research, 37*(5), 565–584.

Rasul, M. S., Abd Rauf, R. A., Mansor, A. N., Yasin, R. M., & Mahamod, Z. (2013). Graduate employability for manufacturing industry. *Procedia - Social and Behavioral Sciences, 102*, 242–250.

Reason, P., & Bradbury, H. (Eds.). (2008). *The SAGE handbook of action research* (2nd ed.). SAGE Publications.

Reddy, P., & Moores, E. (2012). Placement year benefits revisited. *Teaching in Higher Education, 17*(2), 153–165.

Rianto, J., Kamil, M., Putry, W. A., & Bahri, S. (2022). The relevance of the higher education curriculum in the development of the world of work and the industrial sector: The case of Universitas Islam Syekh-Yusuf. *Society, 10*(1), 110–125.

Ryan, M., & Ryan, M. (2013). Reflective learning model. *Higher Education Research & Development, 32*(2), 244–257.

Schonenberg, H., Fullaondo Zabala, A., de Bruin, S., Lette, M., Billings, J., Baan, C., van der Marck, M., & Nieuwboer, M. (2018). Participatory approaches to improve integrated care programs: Methods, experiences, and early results applying methods from implementation research. *International Journal of Integrated Care, 18*(s2), 110.

Shibani, A., & Buck, A. (2022). *Designing effective work-integrated learning for data science students: Considerations and lessons learned*. ASCILITE Publications.

Singh, A. A., Shapter, F. M., Bernard, A., Whitworth, D. J., Holt, M. G., Waller, P. S., & Bond, S. L. (2024). Applying iterative student feedback across flipped classroom and flexible teaching approaches: Impact on veterinary students' learning experience. *Animals, 14*(16), 2335.

Smith, C. (2012). Evaluating the quality of work-integrated learning curricula: A comprehensive framework. *Higher Education Research & Development, 31*(2), 247–262.

Sommer, R., Till, M., Boyer, L., Weber, P., Sauter, A., Ferschl, S., Herrmann-Johns, A., Abu-Omar, K., Pfeifer, K., & Gelius, P. (2025). The challenge of participatory projects for physical activity promotion: What to scale and how to scale? *PLOS ONE, 20*(6), e0326737.

Tan, O. S., Liu, W. C., & Low, E. L. (2017). Teacher education futures: Innovating policy, curriculum and practices. In *Teacher education in the 21st century: Singapore's evolution and innovation* (pp. 1–9). Springer.

Thi Ngoc Ha, N., Dakich, E., & Grieshaber, S. (2022). Factors influencing the participation of industry professionals in work-integrated learning in Vietnamese universities: A qualitative approach. *Higher Education, Skills and Work-Based Learning, 12*(3), 574–587.

Tynjälä, P. (2022). Workplace learning perspectives. In *Research approaches on workplace learning* (pp. 429–450). Springer.

van der Stappen, E., & Baartman, L. (2018). Automated feedback for workplace learning in higher education. In *International Conference on Technology Enhanced Assessment* (pp. 73–90). Springer.

Vannasy, V., & Sengsouliya, S. (2023). Workplace learning predictors. *Andragoška Spoznanja, 29*(1), 81–97.

Virolainen, M., Stenström, M., & Kantola, M. (2011). Employers' views on internships. *Journal of Vocational Education & Training, 63*, 465–484.

Von Pressentin, K. B., Waggie, F., & Conradie, H. (2016). Towards tailored teaching: Using participatory action research to enhance the learning experience of longitudinal integrated clerkship students in a South African rural district hospital. *BMC Medical Education, 16*(1), 82.

Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes* (Vol. 86). Harvard University Press.

Wait, M., & Govender, C. M. (2016). Multi-stakeholder WIL model. *South African Journal of Higher Education, 30*(2), 279–293.

Wenger, E. (1999). *Communities of practice: Learning, meaning, and identity*. Cambridge University Press.

Winstone, N., Boud, D., Dawson, P., & Heron, M. (2022). From feedback-as-information to feedback-as-process: A linguistic analysis of the feedback literature. *Assessment & Evaluation in Higher Education, 47*(2), 213–230.

Zhao, Y., & Ko, J. (2018). Workplace learning in the professional development of vocational education teachers. *Studia Paedagogica, 23*(2), 43–58.