

Open Distance e-Learning in Real Estate Education: Program Mapping and Review

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Abstract

Open distance e-learning (ODEL) has become an increasingly important mode of delivery in real estate education, driven by the applied nature of the discipline, the needs of working professionals, and the digital transformation of higher education. Despite its growing adoption, systematic evidence on how ODeL is conceptualized, implemented, and aligned with pedagogical and professional standards in real estate education remains limited. This study addresses this gap through a two-strand approach combining a narrative review of peer-reviewed literature with a global web-based mapping of ODeL real estate programs. The literature review analyzed studies published between 2000 and 2025, examining dominant pedagogical frameworks, technological approaches, methodological trends, and geographic patterns. The program mapping analyzed the global distribution of ODeL real estate qualifications by region, academic level, delivery mode, assessment approach, and professional accreditation status. The findings indicate that ODeL real estate education is predominantly postgraduate and geographically concentrated in the United Kingdom and Australia, where alignment with professional accreditation bodies, particularly the Royal Institution of Chartered Surveyors (RICS), is strongest. Pedagogical practices are largely asynchronous and learning management system-based, with limited integration of interactive and collaborative learning. Interpreted through transactional distance theory and the community of inquiry framework, the results reveal persistent tensions between accessibility, interaction, and professional competency development, especially in the Global South. The study concludes that effective ODeL real estate education requires deliberate alignment between pedagogy, technology, and professional standards to enhance quality and global recognition.

Keywords: open distance e-learning, distance education, real estate, property studies, land economics.

1. Introduction

Real estate education is distinctive because it is applied, interdisciplinary, and professionally regulated (Black & Rabianski, 2003). Programs in property studies, valuation, and land administration combine economics, law, planning, finance, and

construction. They also emphasize competencies aligned with professional accreditation requirements (Robert & Hanton, 2021).

Delivery mode affects pedagogical effectiveness, graduate employability, and industry confidence (Okolie et al., 2019). Open distance e-learning (ODEL) uses digital technologies to provide flexible learning. This is especially beneficial for students facing geographic, financial, or professional barriers (Tait, 2018). Many students are working professionals or part-time students juggling multiple responsibilities (Evans et al., 2014). The COVID-19 pandemic accelerated ODeL adoption, forcing rapid adaptation of traditional programs to remote or blended formats (Crawford, 2023).

Despite its benefits, ODeL faces challenges in real estate education. Programs rely on experiential learning, such as case analysis, valuation exercises, site visits, studio-based teaching, and industry engagement (Baharum & Adnan, 2025). Moving these elements online raises questions about skills acquisition, assessment integrity, student engagement, and alignment with professional standards. Research on online and distance education in higher education is growing, but studies focusing on ODeL in real estate remain limited. Existing work is often fragmented across business, construction, or planning education literature (Robert & Hanton, 2021). Little is known about how institutional ODeL programs align with theory and pedagogical best practices. Systematic mapping can clarify global patterns, qualification levels, disciplinary focus, and alignment with professional accreditation (Poon, 2017; Tait, 2018).

This study contributes to the literature by combining a systematic review of scholarly work with a global mapping of ODeL real estate programs. Integrating these two approaches offers a clearer picture of both research discourse and institutional practice. The study advances the understanding of ODeL and supports effective implementation in real estate education worldwide. The findings of this study are relevant to universities, policymakers, and professional bodies seeking to expand access to real estate education through flexible learning.

The main research question of this study is: How has ODeL been conceptualized, implemented, and studied in real estate education, and how does this align with current institutional practices? The subsidiary questions are: (1) What are the dominant research themes, methodological trends, and geographic patterns in the literature? and: (2) Which real estate programs are offered via ODeL, and how do they align with or differ from theoretical insights?

The study aims to consolidate knowledge, identify gaps, and provide guidance for educators, institutions, and policymakers on effective ODeL implementation in real estate education.

2. Literature Review

2.1 Theoretical Framework

ODeL is guided by pedagogical theories that explain learning in mediated environments. Transactional distance theory argues that the psychological and communicative distance between students and instructors affects learning outcomes (Moore, 1993). Distance depends on three elements: dialogue, structure, and learner autonomy. Increasing dialogue and flexibility reduces distance and improves engagement and performance. The community of inquiry framework complements this by emphasizing social, cognitive, and teaching presence (Garrison et al., 1999; Garrison, 2007). Social presence helps learners build relationships. Cognitive presence supports reflection and knowledge construction. Teaching presence provides guidance and structure. Promoting these presences improves collaboration, engagement, and learning outcomes. Both theories align with constructivist principles. They advocate for active, collaborative, and reflective learning. Strategies such as structured discussions, group projects, and interactive assessments operationalize these principles in ODeL (Yilmaz, 2019).

Technology is central to ODeL. Learning management systems (LMSs) (e.g., Moodle) support content delivery, assessment, and peer interaction (Martin & Bolliger, 2018). Asynchronous tools allow learners to study at their own pace, increasing flexibility and access. ODeL expands access to students facing geographic, financial, or professional barriers. It allows students to balance study with work and family and can reduce costs for both students and institutions. Challenges remain, including limited digital literacy, technological barriers, and rigid institutional policies. Addressing these requires investment in infrastructure, faculty training, and supportive policies (Ali & Khoza, 2023; Yilmaz, 2019).

These theories provide a strong foundation for course design, engagement strategies, and technology use in real estate ODeL, ensuring meaningful learning outcomes for diverse students. The next section discusses the conceptual framework adopted in this study.

2.2 Conceptual Framework

The conceptual framework guiding this study is illustrated in Figure 1.

The conceptual framework organizes ODeL in real estate education into four interconnected nodes:

- Student Engagement: peer interaction and motivation strategies operationalize social presence via collaborative tools.
- Curriculum Development: digital technologies enable flexible, modular content for working professionals while preserving a robust real estate curriculum.
- Learning Effectiveness: instructor quality and modern assessment methods, such as virtual portfolios and case studies, track professional skills development remotely.
- Technological Integration: e-learning platforms and emerging tools, such as virtual reality, replicate experiential learning tasks, such as site visits and valuation exercises.

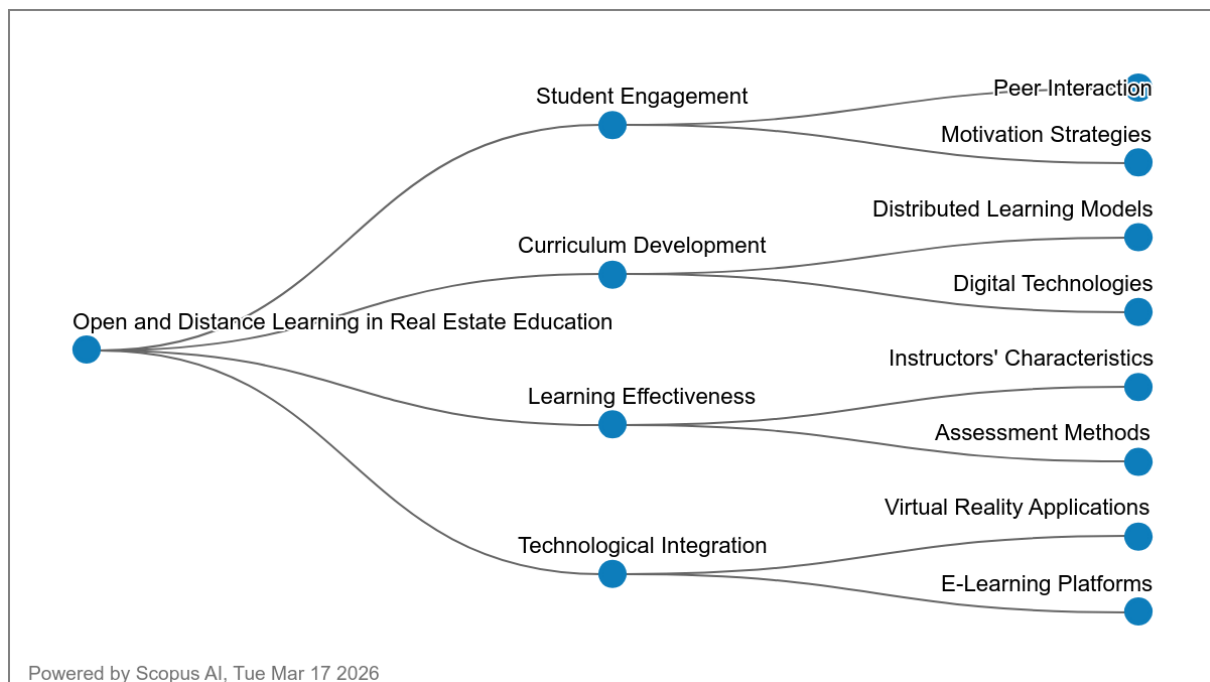


Figure 1: The conceptual framework of ODeL in real estate education

Source: Designed by the author using Scopus AI

These nodes work together to modernize real estate education. Student Engagement and Curriculum Development focus on pedagogy, while Learning Effectiveness and Technological Integration provide infrastructure and evaluation. This framework ensures that the shift from traditional classrooms to digital platforms maintains the applied and professional rigor of the discipline.

3. Method

3.1 Design

This study used a two-strand, mixed-methods approach. It combined a systematic scoping review of peer-reviewed literature with a web-based mapping of global ODeL real estate programs. The two strands were integrated using a convergent synthesis design to identify alignment or divergence between scholarly research and institutional practice.

3.1.1 Strand 1: Literature review protocol

A narrative review approach was adopted. Sources were selected purposively based on relevance to ODeL, real estate education, and professional training. The review focused on conceptual, empirical, and policy-oriented literature to enable thematic synthesis and program mapping rather than exhaustive coverage.

The review followed the Arksey and O'Malley (2005) framework, with enhancements from Levac et al. (2010). The five stages were as follows:

- Defining research questions
- Identifying relevant studies
- Selecting studies
- Extracting data
- Collating, summarizing, and reporting results

a. Data sources and search strategy

The Scopus database was used for the primary search. The search targeted document titles using this Boolean string:

("open distance learning" OR "distance education" OR "online learning" OR "e-learning") AND ("real estate" OR "property" OR "realty" OR "land") AND ("education" OR "training" OR "instruction" OR "curriculum")

b. Inclusion and exclusion criteria

Table 1 summarizes the inclusion and exclusion criteria applied in this study.

Table 1: Inclusion and exclusion criteria

Criterion	Included	Excluded
Time period	2000–2026	Pre-2000
Source type	Peer-reviewed sources	Non-peer-reviewed sources
Language	English	Non-English
Focus	ODEL/Online learning in real estate/property studies education	ODEL/Online learning in fields other than real estate/property studies

c. Selection process (PRISMA)

Figure 2 illustrates the selection process adopted in this study.

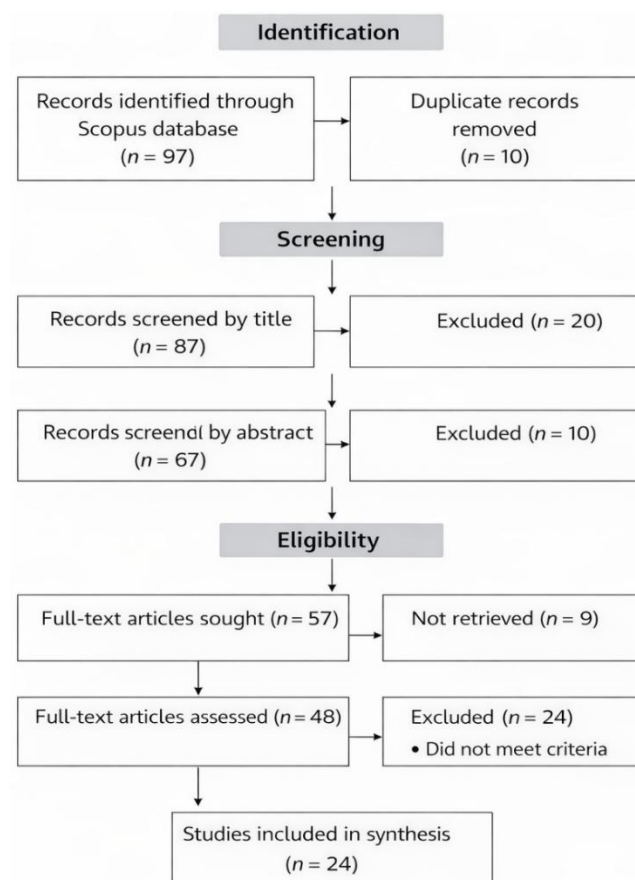


Figure 2: PRISMA diagram illustrating the record selection process in this study

Figure 2 presents a PRISMA 2020 flow diagram illustrating the systematic review process. The review began with 97 records identified through the Scopus database. After removing 10 duplicates, 87 records underwent title screening, resulting in the exclusion of 20 records. The remaining 67 records were screened by abstract, with 10 additional records excluded. Of the 57 full-text articles sought for retrieval, 9 could not be accessed. A total of 48 full-text articles were assessed for eligibility, leading to the exclusion of 24 studies that did not meet the inclusion criteria. Ultimately, 24 studies were included in the narrative synthesis.

3.1.2 Strand 2: Web-based program mapping

A web-based search identified ODeL real estate programs globally. The inclusion criteria were:

- Programs primarily delivered via ODeL or blended formats
- Undergraduate or postgraduate real estate qualifications
- Programs offered in English
- Publicly accessible program information

Data extracted included: institution, country, program title, level, duration, learning platform, and experiential learning components.

a. Categorization criteria for program mapping

To ensure a consistent and replicable analysis, programs were classified using standardized criteria (summarized in Table 2) across delivery modes, assessment approaches, and accreditation status.

Table 2: Categorization criteria for program mapping

Category	Sub-category	Description
Delivery modes	Asynchronous online learning (LMS-based)	100% content delivered via an LMS (e.g., Moodle, Canvas); students learn at their own pace with no real-time attendance.
	Blended engagement	Combines asynchronous modular content with scheduled synchronous sessions (e.g., live webinars or virtual tutorials).
	Structured distance learning	Traditional correspondence-style programs using digital or physical guides with limited online interaction.
Assessment approaches	Fully online assessment	All evaluations, including exams and projects, are conducted digitally.
	Hybrid/blended assessment	Theoretical components assessed online; applied skills require in-person or proctored examinations.
	Experiential/portfolio-based	Focused on authentic tasks, such as virtual portfolios and simulated professional exercises.
Accreditation status	RICS accredited	RICS accredited and verified via the RICS global database.

	Nationally/non-RICS accredited	Locally accredited but not RICS accredited.
	Unverified/non-accredited	Offered by recognized institutions without formal professional accreditation or publicly listed recognition.

b. Identification strategy

Programs were identified from RICS and other accredited databases, supplemented with Google searches of international higher education portals. This included both accredited and non-accredited programs. The strategy ensured a comprehensive mapping of global real estate education offerings.

c. Verification and data extraction procedures

A three-step verification protocol was implemented:

- Program validated via the official university website.
- Only programs explicitly offering ODeL or blended formats included.
- Accreditation claims cross-checked with official professional body databases.

3.2 Data Analysis and Synthesis

Program data were analyzed using descriptive statistics (frequency, geographic distribution, qualification level). Literature review findings were analyzed via narrative synthesis and thematic analysis. Both strands were mapped to transactional distance theory and community of inquiry to assess alignment between theory and practice. Transactional distance theory guided the evaluation of dialogue, structure, and learner autonomy. Community of inquiry shaped the analysis of social, cognitive, and teaching presence. These frameworks informed analytical categories, linking program characteristics to pedagogy, accreditation, and learning outcomes.

3.3 Ethical Considerations

The study relied on publicly available data, with no human participants. Ethical approval was not required.

3.4 Limitations

Limitations included:

- Language bias (English only).
- Reliance on publicly available information, which may omit internal practices.
- Potential omission of grey literature or emerging programs.

4. Results

This results section is structured into two main sub-sections. The first presents results on research themes, methodological trends, and geographic patterns, while the second maps real estate programs offered via ODeL.

4.1. Research Themes, Methodological Trends, and Geographic Patterns

In this sub-section, results are presented in three parts, namely, research themes, methodological trends, and geographic patterns, respectively.

4.1.1 Research themes

The literature shows that distance and e-learning in real estate education is shaped by three interconnected themes: learner engagement, pedagogical strategies, and technology integration. Engagement is central, as students' motivation and learning outcomes depend on the quality of interaction and support. Flexibility is widely valued, allowing students to balance studies with work and personal commitments (Evans et al., 2014; Gachago et al., 2018). However, the benefits of flexibility are limited when interactions with instructors and peers are weak, leading to feelings of isolation and reduced satisfaction (Hamzah et al., 2022; Yilmaz, 2019). This suggests that flexibility alone is insufficient; it must be coupled with structured engagement strategies to maintain learning effectiveness.

Pedagogical strategies, including discussion forums, instructor feedback, and practical assignments, emerged as critical mechanisms to reduce transactional distance and enhance learning (Garrison, 2007; Moore, 1993; Ottenheim et al., 2025). Studies indicate that courses emphasizing dialogue, collaborative tasks, and real-world applications achieved higher levels of student engagement and knowledge retention. This highlights the interdependence between course design and learner outcomes, where pedagogy mediates the effectiveness of flexible online delivery.

Technology integration underpins both engagement and pedagogy. Platforms such as cloud-based systems, LMSs, and resource-sharing tools provide access, facilitate self-paced learning, and enable assessment (Doak & Khan, 2009; Peng & Yan, 2021; Yan & Peng, 2021). Yet, the effectiveness of technology depends on usability and support. Poorly designed systems or inadequate technical guidance hinder engagement and limit learning gains. The literature therefore frames technology not as a standalone solution but as a facilitator that interacts with pedagogy and learner behavior.

4.1.2 Methodological trends

The methodological landscape reflects a balance between understanding learner experiences and evaluating learning effectiveness. Qualitative studies, such as case studies and interviews, predominated in examining student perceptions and challenges (Gachago et al., 2018; Hamzah et al., 2022). These approaches reveal nuanced insights into how flexibility, engagement, and isolation affect learning outcomes.

Quantitative surveys complemented these findings by measuring engagement, satisfaction, and self-assessed competencies, offering generalizable trends (Martin & Bolliger, 2018; Yilmaz, 2019). Mixed-methods studies combined these approaches, linking learner perceptions to measurable outcomes, such as platform usage or assessment performance (Doak & Khan, 2009; Peng & Yan, 2021). The methodological evidence indicates that both experiential and performance-based data are necessary to understand the complex dynamics of distance learning in real estate education.

4.1.3 Geographic patterns

Geographic analysis revealed regional differences in focus and practice. African studies, notably from South Africa and Malaysia, concentrated on learner experiences,

highlighting practical challenges in access, engagement, and resource availability (Gachago et al., 2018; Hamzah et al., 2022). In contrast, research from Europe and Asia emphasized technological innovation and the design of hybrid or cloud-based learning environments (Ottenheim et al., 2025; Peng & Yan, 2021; Yan & Peng, 2021). This pattern suggests that regions differ in the maturity of online education infrastructure and in research priorities. Global disruptions such as COVID-19 accelerated adoption worldwide, highlighting both the potential and limitations of distance learning. The pandemic also revealed that resilient online programs require simultaneous attention to engagement, pedagogy, and technology, regardless of region (Crawford, 2023).

4.2 Mapping of Real Estate Programs Offered via ODeL

The analysis revealed that 19 universities offer ODeL real estate programs, as summarized in Table 3.

Table 3: Universities offering ODeL real estate programs

Region	Universities offering ODeL real estate programs
Europe	University of West England (UWE) Bristol, University of Manchester, Edinburgh Napier, University of the Built Environment, Heriot-Watt University, Leeds Beckett University, Oxford Brookes University, University of Salford, Universitat Politècnica de València, Northumbria University, University of Greenwich
Africa	University of Johannesburg, Cape Peninsula University of Technology, University of Nairobi
Asia	University of the Philippines Open University
Oceania	University of Technology Sydney
North America	University of British Columbia (UBC Sauder), Thompson Rivers University

4.2.1 Global distribution of ODeL real estate programs

As shown in Figure 3, Europe is a key hub of ODeL real estate programs. This reflects the strong influence of regulatory frameworks (RICS accreditation) on curriculum design (Black & Rabianski, 2003; Robert & Hanton, 2021). It was also established that United Kingdom universities, such as the University of the Built Environment, UWE Bristol, the University of Manchester, and Heriot-Watt University, use advanced learning systems to deliver globally accessible postgraduate programs. This highlights an uneven distribution of ODeL, driven by reputation, accreditation, and infrastructure (Tait, 2018). Program design also relies on experiential learning, including valuation exercises, case analyses, and industry engagement. Institutions with established networks and strong technological capacity can adapt these elements more easily to online delivery (Baharum & Adnan, 2025). As a result, the geography of ODeL real estate education reflects both technological adoption and structural factors in professional property education systems. Figure 3 shows the global distribution of ODeL real estate programs by region.

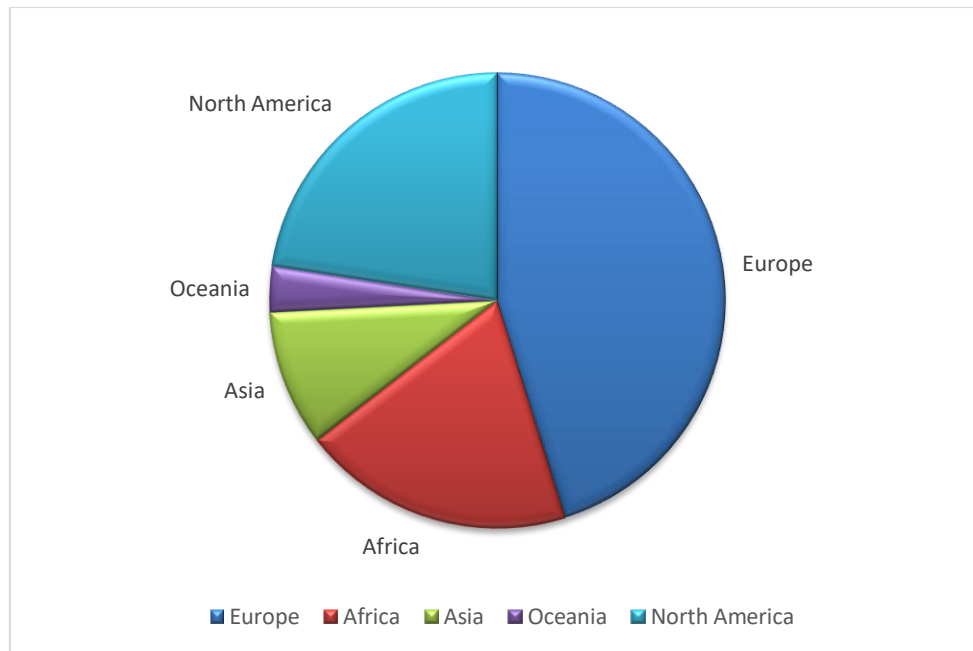


Figure 3: Global distribution of ODeL real estate programs by region

4.2.2 Distribution of ODeL real estate programs by academic level

Analysis by academic level (Figure 4) shows a clear postgraduate focus. The dominance of master's-level programs suggests that ODeL in real estate education is mainly used for professional upgrading rather than entry-level training. This aligns with the needs of working professionals who require flexible study options while meeting continuing professional development or accreditation requirements. Undergraduate and diploma-level offerings are limited. This indicates that foundational real estate education still relies on conventional or blended delivery models. This is especially evident in jurisdictions where professional pathways emphasize face-to-face training.

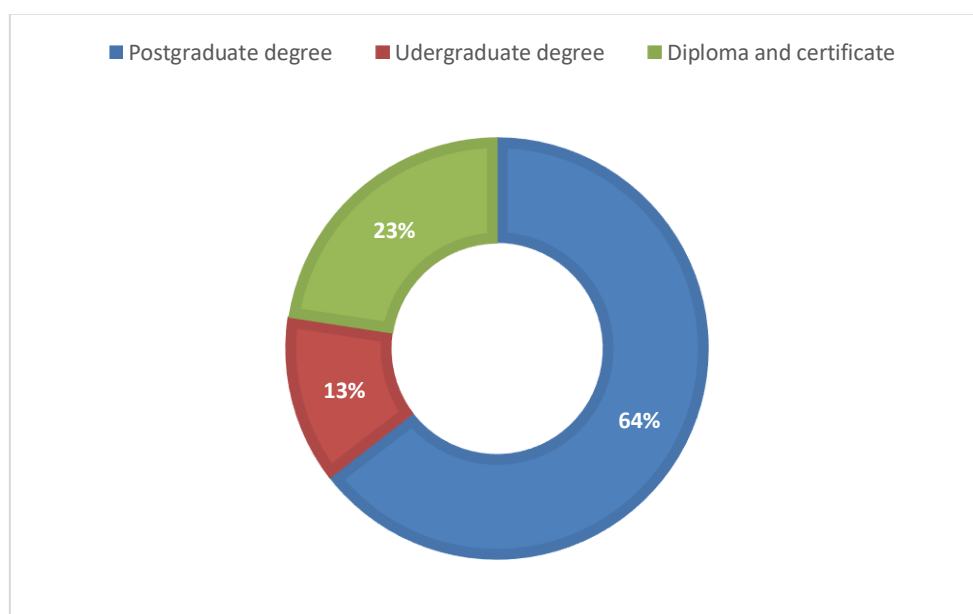


Figure 4: Distribution of ODeL real estate programs by academic level

4.2.3 Pedagogical mapping

In relation to ODeL pedagogy, the findings (Table 4) show strong convergence around asynchronous, LMS-based delivery. This is supported by limited synchronous engagement. The model prioritizes flexibility and learner autonomy. This is consistent with the principles of adult learning and transactional distance theory.

Table 4: Pedagogical approaches and assessment modes in ODeL real estate programs

Pedagogy (dominant mode)	Number of programs
Asynchronous online learning (LMS-based)	18
Blended asynchronous + synchronous engagement	9
Structured distance learning with modular support	4
Total	31

When mapped against the conceptual frameworks of transactional distance theory and the community of inquiry, the data reveal a clear pedagogical divide between technical and strategic programs. Postgraduate offerings, particularly in the United Kingdom and Australia, show high levels of cognitive presence through evidence-based learning. These programs move beyond content delivery. They foster social presence through discussion forums and live webinars. This helps reduce the psychological and communicative distance described by Moore (1993).

In contrast, several undergraduate and diploma programs in the Global South, especially in the Philippines and South Africa, rely more on transactional distance principles. These models emphasize learner autonomy and structured asynchronous modules. They prioritize accessibility over intensive social interaction. Assessment practices are mostly online. This reinforces the self-directed and technology-mediated nature of ODeL. Only a small number of programs retain partial on-campus assessments. These are usually linked to professional competencies or institutional legacy requirements. Overall, the dominance of fully online assessment suggests growing institutional confidence in digital evaluation methods for applied real estate competencies.

4.2.4 Student assessment practices

The analysis showed that assessment strategies in ODeL real estate education have shifted toward digital-first models. The widespread use of case studies, online exams, and virtual portfolios indicates that institutions are trying to replicate experiential learning requirements identified in the literature.

However, reliance on LMS-based assessments raises concerns about assessment integrity. United Kingdom-based MSc programs have largely adopted fully online assessment. In contrast, the blended approach at the University of Nairobi shows that some institutions still face challenges. The transition to fully remote experiential evaluation remains difficult. As a result, hybrid models are used to maintain professional standards. Figure 5 summarizes the modes of assessment currently used in ODeL real estate education.

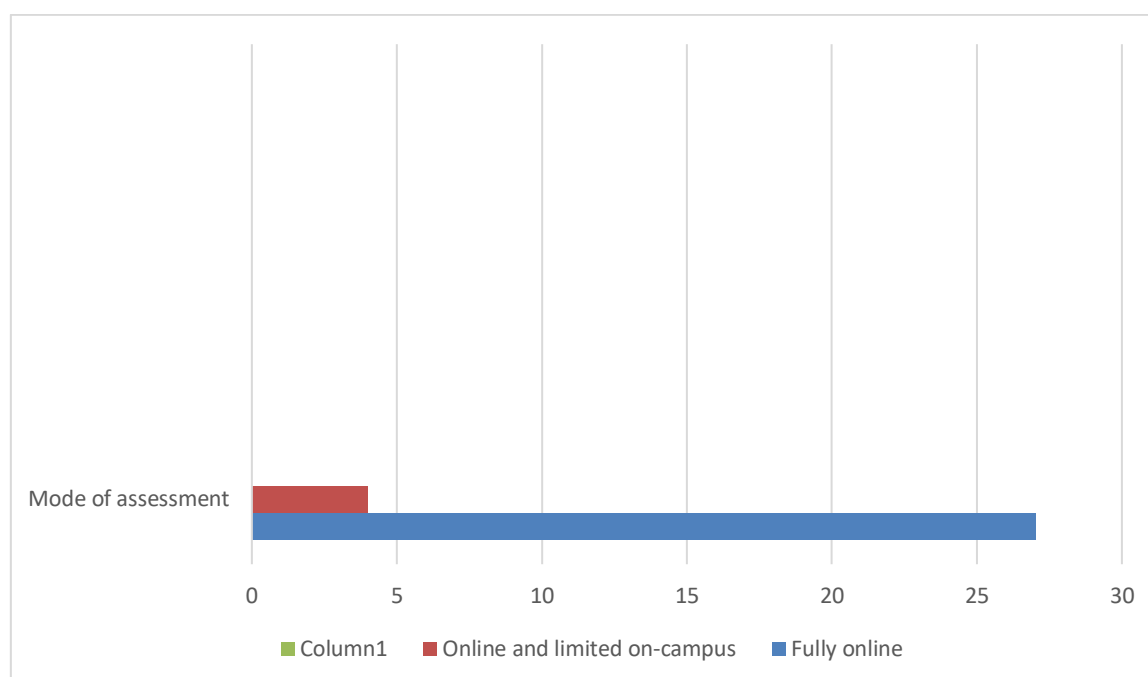


Figure 5: Modes of assessment currently used in ODeL real estate education

4.2.5 International professional accreditation of ODeL real estate programs

The accreditation analysis (Table 5) revealed a critical gap that reflects the socioeconomic divide between the Global North and South. Many programs in Africa and Southeast Asia lack RICS accreditation. Examples include the Bachelor of Real Estate at the University of Nairobi and the Diploma in Real Estate at the Cape Peninsula University of Technology. These programs often rely on blended or professional-only pathways. This suggests that ODeL supports massification and local capacity-building. However, it has not fully bridged the gap to global professional mobility for students in developing economies. The presence of unverified accreditation statuses further highlights the volatility of online accreditation. The rapid expansion of ODeL may be outpacing the regulatory frameworks of professional bodies.

Table 5: RICS accreditation status of ODeL real estate programs

RICS accreditation status	Number of programs	Notes
RICS accredited	18	Primarily the United Kingdom, Australia, and selected European programs
Not RICS accredited	13	Includes programs in Canada, the Philippines, and parts of Africa
Total	31	

4.2.6 Institutional alignment and presence profiles

The use of the community of inquiry framework varies by institutional context, particularly location and history. Table 6 shows that United Kingdom institutions, such as the University of Manchester, emphasize high levels of social presence. They use group projects and active discussion boards to support peer learning. Other United Kingdom universities, including UWE Bristol and the University of the Built Environment, adopt a more balanced approach. They combine structured delivery with practical learning through case studies and virtual tutorials. This helps students apply knowledge to real-world contexts while receiving clear academic guidance.

In other regions, the emphasis shifts toward flexibility. Australian and Canadian programs often combine recorded lectures with live workshops. This gives students greater control over their schedules. In the Global South, including South Africa, Kenya, and the Philippines, social presence is generally lower. These programs rely more on structured online platforms to guide learning. This reflects practical constraints, such as limited access to technology and demanding work schedules. As a result, accessibility is prioritized, even with reduced face-to-face interaction. Table 6 presents a comparison of pedagogical frameworks and social presence by institutional category.

Table 6: Comparison of pedagogical frameworks and social presence by institutional category

Institutional category	Dominant pedagogical framework	Primary delivery mechanism	Demonstrated social presence
UK Russell Group (e.g., University of Manchester)	Community of inquiry	Synchronous webinars, group projects, and peer discussion boards	High: focuses on team-based learning and networking
UK post-1992 & specialist (e.g., UWE Bristol, University of the Built Environment)	Transactional distance theory + evidence-based learning	Structured LMS modules, case study analysis, and virtual tutorials	Medium: focuses on professional tasks and teacher guidance
Canada, Australian, & Pacific (e.g., University of Technology Sydney, UBC Sauder)	Transactional distance theory	Asynchronous self-paced modules and virtual workshops	Medium/high: balances independent study with live sessions
Global South (e.g., University of Philippines Open University, University of Johannesburg, University of Nairobi)	Transactional distance theory	LMS-based content, discussion forums, and blended tasks	Low/medium: prioritizes flexibility to help students overcome barriers

4.2.7 Conceptualization and implementation of ODeL in real estate education

ODeL has increasingly become a central mode of delivery in real estate education. It offers flexibility, accessibility, and alignment with professional and multidisciplinary demands. Early conceptual work highlighted the potential of technology to overcome traditional barriers in distance learning. Asirvatham (2000) argued that e-training tools could replicate many benefits of face-to-face learning, facilitating remote skills acquisition. Doak and Khan (2009) examined the iLearn and ULearn case studies, showing that structured online modules and interactive activities improved engagement and scalability for geographically dispersed learners. These studies emphasized the importance of instructional design in ODeL.

Empirical studies have explored course-level ODeL implementation. Yam and Rossini (2012) investigated blended and fully online learning in a first-year undergraduate property valuation course. They found that blended learning enhanced student participation when project-based tasks were scaffolded through an LMS. Gachago et al. (2018) studied national diploma real estate students in South Africa, highlighting flexibility benefits alongside challenges such as resource access, instructor communication, and autonomous learning. Hamzah et al. (2022) examined real estate and urban planning students during the COVID-19 pandemic. They reported that students felt “*thrown into the deep end*”, underscoring gaps in technological preparedness, self-regulation, and engagement.

Technological innovation studies further illustrate advances in ODeL. Kaklauskas et al. (2006) introduced an intelligent tutoring system for real estate management, showing how automated guidance, adaptive learning, and decision-support features can enhance learning efficiency and personalization. Yan and Peng (2021) designed a cloud-based online teaching system for real estate operation and management courses. Peng and Yan (2021) proposed a teaching resource-sharing system based on data mining to optimize access to learning materials. These studies demonstrate that advanced digital infrastructure is not merely a delivery mechanism but a critical tool to support collaborative, flexible, and personalized learning.

Conceptual perspectives emphasize the strategic role of ODeL in curriculum design. McGrath et al. (2021) argued that real estate programs require flexible curricula that integrate hybrid delivery modes, experiential learning, and industry collaborations. Harth et al. (2025) proposed Real Estate 4.0, highlighting digital infrastructure, technology-driven business models, and evolving professional practices. They stressed the importance of developing graduates’ digital competencies to meet the demands of a rapidly transforming sector.

5. Discussion

The findings of this study are interpreted through a structural lens linking three interdependent dimensions: institutional capacity (digital infrastructure and pedagogical capability), professional regulation (accreditation systems), and pedagogical design (delivery and assessment models). Together, these dimensions shape not only the distribution of ODeL provision but also its quality and outcomes.

This approach moves the analysis beyond descriptive mapping to structural explanation. While literature positions ODeL as a mechanism for expanding access and flexibility (Evans et al., 2014; Tait, 2018), the findings of this study show that its global distribution remains uneven. Concentrations of programs in the United Kingdom and Australia reflect historically embedded real estate education systems, strong alignment with international accreditation frameworks, and advanced digital and pedagogical capacity. Access is therefore mediated by institutional and professional power, not technology alone, reinforcing global inequalities in educational provision.

Regional comparisons illustrate these disparities. The United Kingdom and Australia host most accredited, interaction-rich ODeL programs. They offer synchronous engagement, collaborative learning, and applied assessments that strengthen professional competencies. In contrast, sub-Saharan Africa and parts of Southeast Asia primarily provide asynchronous, LMS-based programs with limited accreditation. These programs constrain higher-order skills development and reduce graduates' professional mobility. Institutional capacity, accreditation frameworks, and pedagogical design jointly shape access, learning outcomes, and recognition in global real estate education.

Pedagogy, accreditation, and learning outcomes are closely linked. By using transactional distance theory, higher learner autonomy and flexible program structures reduce transactional distance, enhancing engagement and outcomes. The community of inquiry framework shows how social and teaching presence support cognitive development and professional competency formation. Accredited programs in well-resourced contexts integrate interactive pedagogies (synchronous engagement, collaborative learning, and applied assessment), supporting deeper learning. By contrast, programs outside strong accreditation systems or in resource-constrained environments rely on asynchronous LMS-based delivery. This improves access but limits interaction and higher-order skills development. Pedagogical design is thus structurally conditioned by accreditation and resources.

Technology functions as an enabling but insufficient condition. Digital platforms support flexibility, interaction, and scalability. Their impact depends on instructional design, institutional investment, and student capability (Kaklauskas et al., 2006; Peng & Yan, 2021; Yan & Peng, 2021). Variations in digital literacy, learner autonomy, and engagement significantly affect outcomes (Hamzah et al., 2022), while inaccurate self-assessment can constrain learning (McGrath & Geurts, 2022). Technology amplifies existing pedagogical and institutional conditions rather than determining learning quality. The dominance of postgraduate programs clarifies the functional role of ODeL in real estate education. ODeL primarily supports professional advancement and continuing development rather than broad access. Foundational competencies often require practice-based learning, which is difficult to replicate online. ODeL is most effective for learners with prior academic or professional grounding, functioning as a targeted rather than universal delivery model.

These structural differences have clear implications for workforce readiness. Graduates from accredited, interaction-rich programs are more likely to acquire competencies aligned with global professional standards, including analytical reasoning, collaborative problem-solving, and applied valuation skills. Graduates from programs with limited interaction or weak accreditation may face restricted professional recognition and reduced mobility, particularly in international labor markets. ODeL expands access while reproducing disparities in professional outcomes.

Professional accreditation emerges as the central structuring mechanism. The dominance of RICS-aligned programs confirms its role in ensuring quality and global recognition while shaping pedagogical models and institutional participation. Accreditation governs design and legitimacy, privileging established institutions and constraining alternative or locally responsive models. ODeL implementation is therefore negotiated within a tightly regulated global professional field.

In summary, applying transactional distance theory and the community of inquiry framework shows how structural factors (institutional capacity, accreditation, and pedagogical design) jointly shape ODeL outcomes. Programs in well-resourced, accredited contexts produce graduates with higher engagement, deeper learning, and stronger professional competencies. Programs in constrained environments face limitations. These frameworks highlight the critical role of targeted, interaction-rich ODeL design in preparing graduates for effective participation in regional and global real estate markets.

6. Conclusion

This study examined ODeL in real estate education. It looked at how ODeL is conceptualized, implemented, and studied. It also compared literature with global program practice. The findings show that ODeL in real estate mainly serves postgraduate students. These are often working professionals seeking flexible study options. Programs are concentrated in Europe and Australia. These regions have strong digital infrastructure and accredited programs, mainly RICS-aligned. In contrast, programs in Africa and Southeast Asia focus on access through LMS-based delivery. They offer less interaction and often have limited accreditation. Pedagogically, well-resourced and accredited programs use interactive, collaborative, and applied learning. This supports cognitive, social, and teaching presence. Resource-constrained programs rely on self-paced modules. They emphasize learner autonomy but offer limited higher-order skills development. Assessment is mostly online, using virtual portfolios, case studies, and exams. Fully replicating experiential learning remains challenging. Technology is an enabler, not a solution on its own. Its effectiveness depends on instructional design, faculty support, and professional alignment. Professional accreditation plays a key role. It guides program design, pedagogy, and graduate outcomes. In conclusion, ODeL expands access and supports professional growth. However, it can reproduce global inequalities. To maximize its potential, institutions should invest in technology, faculty training, interactive pedagogy, and professional alignment. This ensures graduates are ready for regional and global real estate markets.

7. Implications for Practice

The study has several practical implications. Educators and institutions should adopt ODeL strategies that balance flexibility with structured support. They should also promote digital literacy and encourage cognitive and social engagement. Investments in digital infrastructure, faculty training, and instructional design are essential to deliver interactive, learner-centered programs. Policymakers and accrediting bodies should implement standards that maintain quality while allowing flexibility for resource-constrained regions. Instructional designers should focus on blended and applied learning approaches. These approaches strengthen social, cognitive, and teaching presence, enhancing engagement, skills development, and professional readiness. Most importantly, these measures can reduce inequities in access, improve learning outcomes, and prepare graduates for local and global real estate markets.

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