6 Evaluation, Assessment, and Learning Quality

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6.1 The Tension Between Personal Preferences and Institutional Requirements

This chapter addresses the evaluation of simulation-based learning, emphasising humane assessment, educational quality, and the integration of experiential, reflective, and situated perspectives.

One of the deepest tensions in any educational system lies in the distance between what learners would naturally gravitate toward and what institutions require them to know, practice, and demonstrate. This tension cannot be eliminated, because both poles have legitimacy. Personal preferences are not trivial. They are often deeply tied to identity, prior success, intrinsic curiosity, and felt competence. What a learner is drawn toward may reveal

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where energy is already available, where meaning is more easily constructed, and where effort is likely to become self-sustaining.

At the same time, institutional requirements are not merely arbitrary impositions. A society cannot function if each individual learns only what immediately interests them. There are bodies of knowledge and competence literacy, numeracy, scientific reasoning, historical understanding, ethical judgment, communicative clarity that serve as enabling frameworks. They do not simply constrain future action; they expand it. They make certain forms of agency possible.

The problem arises when these requirements are experienced exclusively as external burdens. In such cases, students may comply without understanding, reproduce without appropriating, and perform without integrating. Superficial compliance is often mistaken for learning because institutions are structurally rewarded for visible order and measurable completion. Yet real education requires something more difficult: not only exposing students to core knowledge, but presenting that knowledge in forms that can be recognised as meaningful extensions of their own capacity to act in the world.

The challenge, then, is not to choose between personal pathways and common curricula, but to hold them in productive tension. An educational environment worthy of the name would neither surrender entirely to preference nor ignore it. It would treat preference as diagnostically important without mistaking it for an absolute criterion. It would ask: how can the learner's existing motivations become bridges rather than barriers? How can mandated knowledge be presented not merely as something to be endured, but as something that enlarges the horizon of possible thought and action?

This is an extraordinarily difficult balance to achieve. It is difficult because institutions tend toward standardisation, while persons are singular. It is difficult because educational systems are often organised around efficiency, while meaningful learning is slow, relational, and uneven. And yet this balance is precisely what the best educators, whether consciously or intuitively, spend their lives trying to negotiate. They do not merely transmit content; they interpret the learner's relation to content. They do not abandon standards; they humanise their pathways.

Play, once again, becomes relevant here not as a distraction from institutional learning, but as a medium through which personal investment and formal requirement may be brought into closer alignment. A well-designed game does not simply give the learner what they already want. Rather, it creates conditions in which effort toward a larger objective becomes desirable. It binds curiosity to structure, initiative to rule, and personal pathway to shared framework. In that sense, it offers a model never perfect, but highly

suggestive for how education might honor individual difference without abandoning common intellectual formation.

6.2 Rethinking the Purpose of Evaluation

The existence of assessments is so taken for granted within modern education that their purpose is rarely subjected to sustained scrutiny. Yet the question of why assessments exist at all is fundamental, because every answer implies a different understanding of what education is for.

One common justification is motivational. Assessments create stakes, and stakes can generate effort. The presence of a test, an exam, or a performance review introduces pressure, and pressure may focus attention. In some cases, this can indeed be productive. A clearly defined challenge may help learners organise time, prioritise effort, and mobilise abilities that might otherwise remain dormant. There is, moreover, a valuable distinction to be made between competition against others and competition against oneself. The healthiest form of assessment may not be the one that sorts students into winners and losers, but the one that allows individuals to see whether they have surpassed their own earlier limits.

A second justification is systemic. Institutions need to know whether what they are doing is working. Assessment, in this view, functions as a form of quality control. It provides information about what learners can do, where teaching has succeeded, where it has failed, and which interventions need revision. Here assessment is not primarily about the student as an isolated individual; it is about the institution's capacity to observe its own effects. This function is legitimate and necessary, but it is often compromised when assessments are poorly designed, too narrow, or treated as ends in themselves rather than as feedback mechanisms.

A third function is social signalling. This is often under-theorised, yet in practice it may be the most powerful. Grades, diplomas, certificates, and credentials do not merely describe what someone knows; they communicate that knowledge or the presumption of it to others. They regulate access to further education, employment, recognition, and status. In this sense, assessment belongs not only to pedagogy but to the broader social organisation of opportunity. It is one of the ways society translates educational experience into visible markers of legitimacy.

This signalling function, however, raises difficult questions. The fact that a credential is socially powerful does not guarantee that it accurately reflects meaningful learning. Institutions may end up protecting the value of the signal even when the substance of learning is thin. Students, in turn, may optimise for the signal rather than for

understanding. A profound ambiguity then emerges: assessment may be indispensable for coordination within complex societies, yet also distort the very processes it is meant to represent.

For these reasons, any serious educational theory must ask not only whether assessment is necessary, but what kind of assessment corresponds to what kind of educational vision. If education is understood primarily as sorting, then assessment will tend toward ranking. If education is understood as growth, then assessment must become diagnostic, developmental, and responsive. The issue is not whether to evaluate, but what evaluation is meant to reveal, encourage, and protect.

6.3 The Evaluator Measured by Their Own Instrument

One of the most important and least acknowledged truths about assessment is that every evaluative instrument reveals something about the evaluator who created it. This is not simply a philosophical curiosity. It is a structural fact. Every test, rubric, exam, or review process contains an implicit theory of knowledge, competence, and evidence. It encodes assumptions about what matters, what counts as success, what can be ignored, and what kind of learner is imagined as the norm.

The teacher who values memorisation will design assessments that reward retention and retrieval. The teacher who values synthesis and originality will ask for interpretation, connection, and transformation. The institution that prioritises standardisation will privilege tasks that can be measured uniformly; the one that values complexity may tolerate ambiguity and multiple valid responses. In all cases, evaluation is never neutral. It is always shaped by values, conceptual commitments, and blind spots.

This has important practical implications. When students systematically perform poorly on a given assessment, the first question should not automatically be what is wrong with the students. It should also be: what is this instrument actually measuring? Does it measure what it claims to measure? Does it privilege one style of cognition over another? Does it confuse compliance with understanding? Does it reward surface performance rather than deep learning? Does it systematically exclude forms of intelligence that do not fit the dominant evaluative frame?

To ask such questions is not to excuse poor learning. It is to recognise that educational failure may emerge from a misfit between learner and instrument, not only from an absence of effort or ability. A badly designed assessment may reveal less about what students know than about what the evaluator happens to value. In this sense,

assessment always turns reflexively back upon the system that produces it. It measures, but it is also measured.

This reflexivity is especially important if one takes seriously the possibility that learning is plural in form. If learners differ in how they engage complexity, demonstrate understanding, and convert knowledge into action, then assessments that privilege only one narrow mode of performance will inevitably produce distortions. They may appear objective precisely because they are consistent, while in fact being consistently partial.

Play-based and experience-based learning sharpen this issue further. Once learning is understood not merely as the retention of content but as participation in systems of action, adaptation, collaboration, and exploration, assessment can no longer be restricted to what is easily testable in decontextualised form. The more educational theory acknowledges the complexity of learning, the more carefully it must examine the instruments by which learning is made visible.

6.4 Toward a More Effective Model of Assessment

None of this leads to the conclusion that assessment should be abandoned. On the contrary, evaluation is indispensable if learning is to be made visible, shared, and supported. What follows, however, is that assessment must be radically rethought. It must become more intelligent, more humane, and more aligned with the actual dynamics of development.

The most valuable forms of evaluation are continuous rather than episodic, formative rather than merely summative, and oriented toward growth rather than ranking. They do not wait until the end of a process to deliver a verdict. They accompany the process, illuminating where the learner is, what has become possible, where misunderstanding persists, and what kinds of support or challenge are now needed. Such assessments are less theatrical but more educational. They do not merely certify the past; they help shape the future.

In this model, failure is no longer treated as a terminal judgment. It becomes diagnostic information. A poor result does not simply indicate that the learner has fallen short; it signals that something in the learning ecology requires adjustment. That adjustment may concern the learner's strategy, the teacher's design, the pacing of the curriculum, the clarity of the task, or the alignment between objectives and methods. Failure thus becomes not a stain, but a source of information.

This is where the connection with play becomes especially illuminating. In well-designed play, failure rarely functions as final

condemnation. It is part of the feedback loop. It tells the player something about the system, about their current level of mastery, about the need for a different strategy, better timing, or more careful attention. The player is not expelled from learning by failure; the player is returned to it. Educational assessment, at its best, should work in a similar way. It should preserve challenge while reducing humiliation, maintain standards while making error useful, and support effort not through fear alone but through legibility and meaningful progression.

Ultimately, the deepest purpose of assessment, when it functions well, is not to sort, rank, or certify, even if in practice it may sometimes serve those functions. Its deeper purpose is to make learning visible: visible to the learner, who gains a clearer sense of their own development; visible to the teacher, who can adjust guidance and design; and visible to the institution, which can better understand the effects and limits of its own practices.

To make learning visible in this way is, at its best, an act of respect. It means recognising that human development is complex, nonlinear, and irreducibly situated. It means refusing to reduce persons to performances while also refusing the false kindness of not asking anything of them. It means building evaluative systems that challenge without degrading, inform without flattening, and guide without foreclosing possibility.

If education is to become more responsive to human potential, then it must learn from play not only how to motivate, but how to structure environments in which action, feedback, difficulty, and growth are held together coherently. The real lesson of play is not simply that people enjoy learning more when it is engaging. It is that development flourishes when individuals are placed in worlds where effort has meaning, failure remains usable, and progress becomes experientially intelligible. In that sense, the most important educational question is no longer how to make students comply, but how to design systems worthy of the capacities they already contain.

6.5 Educational Quality in Simulation-Based Learning

The educational quality of a simulation cannot be reduced to its degree of realism, its technological sophistication, or its entertainment value. A simulation may be highly immersive and still produce limited learning if its internal structure does not support interpretation, purposeful action, feedback, and reflection. For this reason, educational quality should be understood as a property of instructional design rather than as a by-product of activity alone. In the present framework, simulation-based learning is organised around three interdependent dimensions: (1) scenario, context, and settings;

(2) decision, action, and behaviour; and (3) results, performance, and consequences. The educational value of a simulation depends on how these dimensions are designed and, above all, on the extent to which they are aligned, rich, and dynamically interactive.

This section develops the theoretical basis of that claim. It argues that simulations become educationally powerful when they create a meaningful context for participation, require learners to exercise judgment through action, and produce consequences that can be interpreted and reflected upon. This claim draws on a set of complementary traditions in educational theory and social thought. Experiential learning highlights the importance of action and reflection in learning processes (Kolb 1984). Pragmatist views of education emphasise experience as the foundation of inquiry and growth (Dewey 1938). Reflective practice shows that professional competence depends on the capacity to think in and on action (Schön 1983). Sociocultural theory stresses the mediated and situated nature of learning (Vygotsky 1978). Situated learning further demonstrates that knowledge develops within communities of practice and meaningful contexts of participation (Lave, Wenger 1991). Systems theory, finally, provides the conceptual vocabulary needed to understand feedback, interdependence, and non-linear consequences within complex simulation environments (Meadows 2008; von Bertalanffy 1968).

Taken together, these traditions support a view of simulations not as static representations of reality, but as designed systems of situated action and consequential feedback. The central argument of this section is that the educational quality of a simulation emerges when the three dimensions of the framework are coherently aligned with learning objectives, enriched by meaningful complexity, and linked through recursive cycles of action and feedback.

6.6 Defining Educational Quality in Simulation-Based Learning

Educational quality in simulation-based learning refers to the capacity of a simulation to generate meaningful, durable, and transferable learning. A cautionary note from the management literature is relevant here: Ridgway's (1956) classic analysis of performance measurement warns that what gets measured shapes what gets done, often at the cost of unmeasured but equally important outcomes. Applied to simulation-based assessment, this means that evaluation frameworks which focus exclusively on quantifiable performance metrics risk crowding out the richer learning, adaptive judgment, ethical reasoning, cultural sensitivity, that good simulations are uniquely positioned to develop. Imlig-Iten and Petko (2018) provide

useful empirical grounding here: their comparative study found that serious games and educational simulations produce distinct patterns of learning outcomes. A related comparison is offered by Dedeaux and Hartsell (2018), who examined two structurally different types of educational computer games and found that format interacted with content domain in determining learning gains, reinforcing the view that no single game type is uniformly superior and that matching game structure to learning objective is the critical design decision., with games generating higher levels of enjoyment and interest, and simulations producing deeper cognitive processing, a result that underscores the importance of matching the instructional format to the intended learning outcomes rather than treating the two as interchangeable. This definition implies more than participant engagement or task completion. A simulation of high educational quality enables learners to interpret a situation, identify relevant variables, make decisions under conditions of uncertainty, act within a structured environment, observe the consequences of their conduct, and reflect on the relationship between action and outcome. In this sense, educational quality concerns both process and outcome: it concerns how learning unfolds within the simulation and what forms of competence that process makes possible.

Such an understanding is consistent with Dewey's view that not all experiences are equally educative. Sousa and Rocha (2019) provide relevant evidence from management education: their study of leadership development through game-based learning found that participants developed specific leadership styles and interpersonal skills, particularly related to communication, decision-making under uncertainty, and collaborative problem-solving, that traditional training methods had not produced, supporting the view that simulation-based experiences can generate managerial competencies resistant to conventional instruction. In management and health professions education, this principle has been operationalised through the integration of serious games into case-based learning: Addy et al. (2018) demonstrated that a simulation game embedded within a case-based curriculum produced measurable improvements in clinical reasoning and professional judgement, precisely because the game's consequence structure made the logic of professional decision-making visible and actionable rather than merely described. A parallel case is documented by del Blanco et al. (2017), who conducted a randomised controlled trial using a videogame to prepare nursing and medical students for their first visit to an operating theatre: the intervention significantly reduced anxiety and improved preparedness, illustrating how simulation-based games can address affective as well as cognitive dimensions of professional training. In preparatory rather than primary instruction, Makransky, Thisgaard, and Gadegaard (2016) found in a randomised controlled study

that virtual simulations used as preparation for actual laboratory exercises significantly improved the acquisition of key laboratory skills and enhanced non-cognitive outcomes including confidence and motivation, suggesting that simulation-based learning is most effective when it is designed as part of an integrated instructional sequence rather than as a standalone replacement for hands-on practice. For Dewey, the educational value of experience depends on how it is organised and on whether it opens possibilities for growth and further inquiry (Dewey 1938). This is particularly relevant to simulation-based learning. Simply placing learners in a realistic or active environment does not guarantee educational value. The experience must be structured in such a way that participants can make sense of it, act meaningfully within it, and derive insight from its consequences. Similarly, Kolb's experiential learning model suggests that learning emerges from a cycle linking concrete experience, reflective observation, abstract conceptualisation, and active experimentation (Kolb 1984). A simulation of high educational quality does not merely provide concrete experience; it must also support reflection, abstraction, and renewed experimentation.

From this perspective, educational quality can be described through several interrelated features. First, the simulation must promote situational understanding. Participants should be able to grasp the logic of the environment in which they are operating, identify salient cues, and recognise the relevance of contextual variables. Second, it must support purposeful agency. Learners should not remain passive observers; they must be required to decide and act. Third, it must include a meaningful consequence structure. Participants should encounter results that are linked to their actions and that reveal something significant about the domain being learned. Fourth, it must promote reflection and transfer. Learners should be able to reconstruct the logic of what occurred and connect that understanding to professional or organisational practice beyond the simulation itself.

Educational quality, then, is not an isolated variable. It is an emergent property of the design architecture of the simulation. It arises when the simulation functions as a coherent learning system rather than as a mere exercise or performance event.

6.7 The Three-Dimensional Framework of Simulation Quality

The framework conceptualises simulations as learning systems organised around three dimensions. The first dimension, scenario, context, and settings, concerns the conditions within which participants operate. The second, decision, action, and behaviour, concerns the forms of agency exercised by participants. The third,

results, performance, and consequences, concerns the outputs and effects generated within the simulated environment. These dimensions correspond, respectively, to three pedagogical questions: What is the situation? What should be done? What happened and why?

The first dimension establishes the interpretive field of the simulation. This emphasis on active sense-making aligns with Mayer's (1996) SOI (Selecting, Organizing and Integrating information) model of learning from expository text, in which selecting, organising, and integrating information constitute the three cognitive processes through which understanding is constructed from experience, processes that simulation environments activate simultaneously rather than sequentially. Scenario refers to the problem space or narrative condition that frames participation. Context includes the social, organisational, institutional, cultural, and temporal conditions that give meaning to the scenario. Settings refer to the specific operational parameters of the simulation, including roles, rules, resources, communication channels, information availability, and time constraints. This dimension is educationally important because learners do not act in the abstract. They act in relation to perceived conditions. The scenario/context/settings dimension therefore shapes what participants notice, how they define the problem, and what forms of action appear relevant or possible.

The second dimension concerns participant agency. Decision refers to the selection of a course of action among alternatives. Action refers to the enactment of that choice within the simulation. Behaviour refers to broader patterns of conduct, including cooperation, negotiation, leadership, avoidance, risk-taking, adaptability, and ethical positioning. This dimension is central because it is the point at which understanding becomes operative. Learners reveal what they know not only through what they say, but through how they choose, act, and relate to others. Schön's notion of professional artistry is especially relevant here, since it emphasises that competent practice depends on reflection-in-action, improvisation, and the ability to respond intelligently to indeterminate situations (Schön 1983).

The last dimension concerns what emerges from participant conduct. Results refer to immediate outputs. Performance refers to the quality of action relative to goals or standards. Consequences refer to broader, often delayed or systemic effects of decisions and behaviours. This dimension is critical because learning in simulations occurs largely through the experience of feedback. Systems theory is especially useful here because it highlights that effects are often non-linear, delayed, and distributed across interdependent elements (Meadows 2008; von Bertalanffy 1968). What matters educationally is not only whether an action 'worked', but what chain of consequences it produced, for whom, and under what conditions.

These three dimensions should not be understood as linear stages. They are analytically distinct but functionally interdependent. Context shapes action, action produces consequences, consequences reshape interpretation, and revised interpretation informs new action. This recursive structure is what gives simulations their developmental potential.

The first major condition of educational quality is alignment. Alignment refers to the degree of coherence among the three dimensions of the simulation and between those dimensions and the intended learning objectives. A simulation is aligned when the scenario requires the target competence, the actions available to participants express that competence, and the consequences generated by the simulation reveal the significance of those actions in ways that are meaningful for learning.

The importance of alignment may be clarified by considering the relation between context and action. If a simulation is intended to develop intercultural competence, then the context must make intercultural judgment consequential. It is not enough to situate participants in an international setting if the actual decisions required of them can be solved through generic reasoning that ignores cultural difference. In a well-aligned simulation, the participant cannot succeed without taking the relevant context seriously. The scenario therefore functions not as decorative background, but as a substantive condition of learning.

A similar requirement applies to the relation between action and consequence. Participants must be able to see that what happens in the simulation is related, in an intelligible way, to what they did. The point is not to create simplistic or deterministic responses. Indeed, in many professional fields the consequences of action are delayed, partial, or distributed. Yet the simulation must still render consequence structures interpretable. Otherwise, learners are left with activity without causal understanding. Kolb's model is helpful here because it makes clear that experience alone is insufficient; learning requires the transformation of experience through reflection and conceptualisation (Kolb 1984). If the consequence structure is opaque or arbitrary, that transformation becomes difficult.

Alignment also has an evaluative dimension. The outcomes and performance indicators built into the simulation must reflect the values and causal logics of the target domain. A simulation on international human resource management, for example, should not evaluate success solely in terms of procedural efficiency if the domain itself includes concerns such as legitimacy, fairness, adaptation, morale, and retention. Likewise, a cross-cultural marketing simulation should not reduce success to sales volume alone if symbolic resonance, trust, and local legitimacy are central

to marketing effectiveness. Misalignment at the level of evaluation risks teaching learners distorted professional priorities.

Dewey's insistence on the continuity between means and ends in education is relevant here. The educative value of an activity depends on the way its internal organisation directs learners toward meaningful growth (Dewey 1938). Alignment is thus not merely a technical requirement but a pedagogical principle. It ensures that the simulation is about the right thing in the right way.

While alignment provides coherence, richness provides depth. Richness refers to the degree of meaningful complexity present within the three dimensions of the simulation. It concerns the density of variables, the plurality of perspectives, the presence of ambiguity and trade-offs, and the extent to which the simulation requires diagnosis rather than mere execution. Richness is essential because professional competence is rarely exercised in simplified conditions. Many real-world problems are characterised by incomplete information, competing objectives, stakeholder diversity, and uncertain consequences. A simulation of low richness may be easy to manage, but it often fails to prepare learners for the interpretive and adaptive demands of actual practice.

Richness in the first dimension means that the scenario and context contain relevant complexity. This may include multiple stakeholders, conflicting expectations, institutional constraints, cultural variability, resource limitations, and temporal pressures. Such richness supports what may be called interpretive learning. Learners must decide what matters, what is uncertain, and what the problem actually is. This resonates with sociocultural approaches to learning, which emphasise that knowledge is constructed through participation in meaningful situations rather than transmitted as decontextualised content (Vygotsky 1978). It also resonates with situated learning theory, according to which learning is inseparable from the social and material contexts in which practice occurs (Lave, Wenger 1991).

Richness in the second dimension means that the simulation offers participants meaningful scope for judgment and conduct. Learners should face alternatives that involve trade-offs rather than obvious answers. They should be able to negotiate, revise, improvise, and respond to others. The educational value of such richness lies in the development of agency under constraint. Participants are not simply executing procedures; they are learning how to prioritise, justify, and adapt. This is particularly important in management education, where competence includes not only technical knowledge but also leadership, communication, ethical awareness, and strategic flexibility.

Richness in the third dimension means that outcomes are not limited to immediate and single-dimensional scores. Educationally rich simulations often include multiple performance indicators, delayed consequences, second-order effects, and tensions between

short-term gains and long-term sustainability. Systems theory is especially useful in making sense of this dimension because it underscores that interventions within complex systems often generate unintended effects and feedback loops (Meadows 2008; von Bertalanffy 1968). A richly designed consequence structure helps learners appreciate that success in professional settings is often partial, relational, and temporally extended.

At the same time, richness must be calibrated. Too little richness produces oversimplification; too much richness may produce overload. Vygotsky's concept of the zone of proximal development is suggestive in this respect. Learning is most effective when challenges exceed current competence but remain within a range that can be supported through mediation and guidance (Vygotsky 1978). In simulation design, richness should therefore be sufficient to challenge learners, but not so excessive that it prevents interpretation and purposeful response.

The third condition of educational quality is dynamic interaction. This refers to the recursive way in which the three dimensions influence one another over time. A simulation of high educational quality does not present context, action, and consequence as isolated blocks. It creates a loop in which participants interpret the situation, act within it, observe the results, reflect on what occurred, and re-enter the situation with revised understanding. This cyclical pattern is fundamental to experiential learning and reflective practice.

Kolb's experiential learning cycle offers a clear foundation for this view. Learning begins with experience, but it becomes developmental only when experience is followed by reflection, abstraction, and renewed experimentation (Kolb 1984). Schön deepens this argument by showing that professionals learn not only after action, but during it, through reflection-in-action (Schön 1983). Simulations are particularly suited to such learning because they allow participants to act, observe emerging conditions, and adjust their conduct in real time. Educational quality increases when the design of the simulation makes such adjustment possible and meaningful.

Dynamic interaction is also central to Dewey's understanding of inquiry. For Dewey, learning arises through transactions between actor and environment, especially when habitual responses are disrupted and inquiry becomes necessary (Dewey 1938). A simulation that supports dynamic interaction creates precisely such conditions. Participants confront uncertainty, test possible responses, observe consequences, and reorganise their understanding. In this sense, the simulation becomes not just a representation of a problem but a medium for inquiry.

From a systems perspective, dynamic interaction matters because consequences reshape the very field in which subsequent actions occur. A decision affects not only a score but also the informational,

relational, and structural conditions of future participation. For example, a poorly managed negotiation may reduce trust, which then changes the meaning of later options. An insensitive marketing message may damage legitimacy, which in turn constrains future strategic choices. These recursive effects are educationally important because they help learners recognise that professional action unfolds within evolving systems rather than static situations.

Dynamic interaction is therefore the dimension through which simulations become developmental rather than merely demonstrative. This claim is consistent with Fiorella and Mayer's (2015) framework of learning as a generative activity: the most durable understanding arises not from exposure to well-organised information, but from the learner's active effort to select, organise, and integrate that information in response to meaningful challenges, which is precisely what recursive simulation design makes possible. It supports adaptation, strategic revision, and the gradual refinement of judgment. Without it, even a rich and aligned simulation may remain educationally limited, functioning more like a complex case study than an experiential learning system.

6.8 The Integration of Experiential, Reflective and Situated Perspectives

The value of the present framework lies partly in its capacity to integrate multiple theoretical traditions into a single design logic. Experiential learning theory explains why simulations must move beyond exposition toward action and reflection (Kolb 1984). Dewey's philosophy of education clarifies why experience becomes educational only when it is organised to support inquiry and growth (Dewey 1938). Schön's account of reflective practice explains why professional learning depends on the capacity to interpret and revise action in the midst of uncertainty (Schön 1983). Vygotskian theory emphasises the mediated and socially structured character of learning, reminding us that competence develops through interaction, tools, language, and support (Vygotsky 1978). Lave and Wenger show that learning is inseparable from participation in meaningful practices and communities, which supports the claim that context is not external to cognition but constitutive of it (Lave, Wenger 1991). Systems theory, finally, explains why consequences in simulations must be treated not as isolated outputs but as components of a feedback-governed whole (Meadows 2008; von Bertalanffy 1968).

These traditions converge around several principles. First, learning is active rather than passive. Second, learning is situated rather than context-free. Third, learning is reflective rather than automatic. Fourth, learning unfolds in relation to feedback and consequence.

Fifth, meaningful competence includes not only knowledge possession but also interpretive judgment and adaptive conduct. The Context–Action–Consequence framework can therefore be seen as an applied synthesis of these principles. It translates them into a practical model for analysing and designing educational simulations.

An important implication of the framework is that not all simulations distribute emphasis equally across the three dimensions. Different configurations produce different forms of educational quality. A simulation with high alignment but limited richness may be well suited for novice learners or introductory instruction. It offers clarity and coherence, but may not sufficiently develop adaptive expertise. A simulation with high richness but poor alignment may feel realistic and engaging, yet produce diffuse or misdirected learning. A simulation with high richness and alignment but weak dynamic interaction may support analysis and discussion, but offer fewer opportunities for iterative behavioural learning.

The most educationally powerful configuration is one in which all three conditions are strong. In such cases, learners encounter a meaningful and complex context, are required to act within it through non-trivial judgment, and receive layered, interpretable consequences that support reflection and adaptation. This configuration is especially appropriate for fields characterised by complexity, ambiguity, and relational interdependence, such as cross-cultural marketing and international human resource management.

In cross-cultural marketing, high educational quality requires a context rich in symbolic and cultural variability, actions that require interpretation of local meaning systems, and consequences that reveal the effects of strategic choices on resonance, trust, and legitimacy. In international human resource management, high educational quality requires a scenario that captures global-local tensions, actions that involve both formal policy and relational conduct, and consequence structures that make visible the effects of decisions on morale, adaptation, fairness, and organisational integration. In both cases, the framework helps explain why superficial gamification is insufficient: the educational challenge lies not in adding competition or rewards, but in designing a consequential system of situated judgment.

6.9 Implications for Evaluation of Learning Experience

The framework also provides a basis for evaluating simulation quality. A simulation can be assessed by asking whether its scenario and context meaningfully represent the target domain, whether participant decisions and behaviours express the intended competence, whether the results and consequences make causal structures visible, and whether the overall design supports iterative reflection and adaptation.

This evaluative perspective is useful because it shifts attention away from narrow indicators such as satisfaction or completion and toward the deeper structure of learning.

For the purposes of the present book, this framework can serve as a conceptual bridge between theoretical chapters and applied chapters. It provides a vocabulary for describing why some simulation-based learning experiences are educationally robust and others are pedagogically thin. It also offers a comparative lens for analysing the two anchor cases of cross-cultural marketing and international HRM. In both cases, the key question will not simply be whether learners participated successfully, but whether the simulation achieved alignment, richness, and dynamic interaction across the three dimensions.

The educational quality of a simulation is best understood as an emergent property of design. It does not reside in realism alone, in participation alone, or in technological sophistication alone. Rather, it emerges when a simulation creates a meaningful context for interpretation, requires purposeful and competence-relevant action, and generates consequences that can be understood, reflected upon, and used to guide future conduct. In the framework proposed here, this educational quality depends on three interrelated conditions: alignment, which provides coherence; richness, which provides depth; and dynamic interaction, which provides developmental learning potential.

This perspective allows simulations to be theorised as more than instructional techniques. They become structured environments for inquiry, action, and reflection. They allow learners to encounter the complexity of professional practice in forms that are pedagogically manageable yet sufficiently consequential to generate understanding. The next sections of the chapter can build on this framework by examining how the three-dimensional framework informs the design of specific simulation formats and how it can be operationalised in the two empirical domains explored in this book.