



Student-Generated Case Studies as Instruments of Experiential Learning

Dr. Michael Anderson

Associate Professor, University of Sydney, Australia

Abstract

Case-based learning has long been used in higher education to connect conceptual knowledge with realistic professional problems. Its experiential potential becomes substantially deeper when students move beyond analyzing instructor-selected cases and assume responsibility for identifying, researching, constructing, defending, and reflecting on cases of their own. Existing research on student-generated cases has reported benefits including stronger ownership, peer learning, engagement, self-directed learning, information integration, and appreciation of complex professional reasoning. Good's student-generated clinical case-report project, for example, found that more than 70% of surveyed students considered the activity at least moderately useful for several dimensions of understanding and clinical reasoning, while Chandrasekar and colleagues reported strong teamwork, ownership, and appreciation of clinical reasoning nuances in a medical case-creation pilot.

The present study develops a structured student-generated case methodology as an instrument of experiential learning in higher education. A synthetic sample of 640 students was divided among four instructional conditions: instructor-provided case analysis, student-led analysis of existing cases, student-generated case development, and student-generated case development with peer defense and structured reflection. Outcomes included theory-to-practice transfer, problem framing, evidence integration, decision quality, collaborative learning, reflective judgment, professional communication, and perceived ownership of learning. The strongest condition produced a simulated experiential-learning composite score of 89.6 compared with 63.8 for conventional instructor-provided case analysis. Seventy-four percent of learners in the strongest condition were classified within the high experiential-achievement category compared with 31% in the conventional case condition.

The study argues that the educational value of student-generated cases arises from a change in epistemic responsibility. Students do not merely solve a problem whose relevant facts have already been selected by an instructor; they must determine which problem deserves investigation, distinguish relevant from irrelevant evidence, represent ambiguity fairly, construct plausible alternatives, justify decisions, and expose their reasoning to peer critique. Research on cooperative student case creation similarly reports that the experiential and collaborative nature of case construction can support learning through dialogue and engagement with complex issues.

The paper concludes that student-generated cases can function as rigorous experiential-learning instruments when case authenticity, evidence quality, ethical handling of real situations, faculty scaffolding, peer review, decision justification, and reflective debriefing are deliberately designed. The strongest model is neither a completely instructor-controlled case method nor an unstructured student



project. It is a scaffolded case-production cycle in which students progressively move from observers of professional problems to investigators, case authors, decision-makers, critics, and reflective practitioners.

Keywords: student-generated case studies, experiential learning, case-based learning, active learning, authentic assessment, student-centered pedagogy, reflective learning, collaborative learning, professional education, higher education

1. Introduction

Case studies occupy a distinctive position in higher education because they translate abstract disciplinary concepts into situations that require interpretation and judgment. Unlike conventional exercises in which the relevant variables and procedures may already be specified, a well-designed case presents a context containing ambiguity, competing priorities, incomplete evidence, stakeholder interests, and more than one defensible response. Contemporary higher-education literature continues to characterize case learning as an active and experiential approach through which learners apply theoretical concepts to realistic situations, engage in discussion, and compare alternative interpretations and solutions. The approach is currently used across fields such as business, health professions, education, law, and other professionally oriented disciplines.

Traditional case-based learning, however, normally positions instructors or textbook authors as the designers of the learning problem. They decide what situation will be examined, which facts will be included, which contextual details are relevant, and where the central dilemma lies. Students then analyze a carefully prepared representation of reality. This arrangement can effectively support problem solving, but it removes several intellectual tasks that professionals routinely face before formal decision-making begins. In practice, professionals must notice that a problem exists, define its boundaries, identify credible evidence, determine whose perspectives are missing, and decide what uncertainty matters. Student-generated case studies restore these tasks to the learner and therefore extend case analysis into case inquiry.

Empirical work provides a foundation for this extension. Good's 2009 student-generated case-report project required chiropractic students to develop clinical case reports after receiving instructional scaffolding. Students reported improvements in understanding, clinical reasoning, information integration, literature use, identification of knowledge weaknesses, and confidence, with 70% supporting continuation of the exercise. Chandrasekar and colleagues later evaluated student case creation among first-year medical students and found high engagement, peer learning, increased ownership of case content, and greater appreciation of clinical-reasoning nuances, although reduced student-faculty interaction highlighted the need for better integration of instructor feedback. These findings suggest that student ownership can deepen learning but does not eliminate the pedagogical importance of expert guidance.

The educational value is not limited to clinical education. Ashamalla and Crocitto described student-generated cases as a transformational approach in management education, while later higher-education work has examined student-authored cases, cooperative case creation, and student-created case studies as forms of active, dialogic, and authentic assessment. Sulé and colleagues found that



cooperative case creation supported experiential and collaborative learning with implications for dialogue and engagement with complex equity-related issues. More recent teaching resources continue to identify student-generated cases as a legitimate case-based learning format and recommend authenticity, relevance, scaffolding, peer discussion, and reflection as important implementation principles.

The present study therefore investigates Student-Generated Case Studies as Instruments of Experiential Learning through a simulation-based comparative framework. It proposes that case generation creates a fuller experiential cycle than case analysis because students experience a situation or investigate a contextual problem, reflect on its meaning, connect observations with theoretical concepts, construct a decision-focused case, test interpretations through peer analysis, and reconsider their reasoning after critique. The paper evaluates four progressively learner-centered instructional models and develops a structured framework through which student-generated cases can strengthen theory-to-practice transfer without sacrificing factual accuracy, academic rigor, assessment reliability, or ethical responsibility.

2. Objectives of the Study

2.1 To Evaluate the Experiential Value of Student-Generated Case Construction

The first objective is to examine whether requiring students to research and construct cases produces stronger theory-to-practice transfer, evidence integration, problem framing, decision quality, and reflective judgment than conventional analysis of instructor-provided cases.

2.2 To Examine Ownership, Collaboration, and Professional Reasoning

The second objective is to assess whether student case authorship increases responsibility for learning, collaborative inquiry, peer feedback, professional communication, and tolerance for ambiguity while identifying conditions under which insufficient expertise may reduce case quality.

2.3 To Develop a Scaffolded Case-Production Framework

The third objective is to develop a practical higher-education model connecting authentic problem selection, evidence collection, case writing, faculty quality review, peer analysis, oral defense, structured reflection, and revision into a coherent experiential-learning cycle.\

3. Review of Literature

3.1 Case-Based Learning as an Experiential Bridge Between Theory and Practice

Case-based learning is generally characterized by the use of realistic or simulated situations to encourage learners to apply conceptual knowledge in practical contexts. Contemporary higher-education guidance describes it as an active, student-centered method grounded in constructivist and experiential-learning traditions and associated with critical thinking, reflection, collaborative problem solving, confidence, and transferable skills. Fixen likewise argues that case studies can move learners into an active role by providing a setting in which theory can be applied to real-world situations and discussed through alternative interpretations and solutions.



The relationship with experiential learning is particularly strong when learners must move repeatedly between concrete situations and abstract disciplinary ideas. A case is educationally valuable not because it is realistic in appearance alone, but because it requires learners to explain the situation through concepts, make a judgment, and reconsider that judgment after discussion or new evidence. A superficial case containing an obvious answer can therefore be less experiential than a carefully bounded situation containing genuine uncertainty.

Traditional cases nevertheless remain mediated experiences. The instructor or case author has already decided what counts as evidence and how the problem will be framed. Student-generated case studies redistribute those decisions. Instead of entering only at the analysis stage, students participate in problem discovery and representation.

This increased responsibility can produce deeper cognitive engagement because constructing a coherent case requires learners to understand the topic sufficiently well to distinguish essential from incidental information. It also requires anticipation of how another learner will interpret the problem. In this sense, students simultaneously become investigators, authors, teachers, and eventual critics of their own representations.

3.2 Student Case Creation, Ownership, and Collaborative Knowledge Construction

Good's student-generated case-report study provides direct evidence that creating educational materials can support learner development. Students constructed clinical case reports from an instructor-provided framework, and surveyed participants reported benefits across case understanding, clinical reasoning, information integration, evidence use, self-learning, and writing. Importantly, the activity did not leave students completely unstructured; templates and preparatory instruction supported the case-writing process.

Chandrasekar and colleagues provide additional evidence concerning collaborative case creation. Their pilot involved ten first-year medical students working in groups to create a patient case around an assigned diagnosis. Students and faculty reported particularly strong engagement and teamwork, and students described increased ownership and appreciation of clinical reasoning complexity. The study also identified a trade-off: limited instructor involvement reduced opportunities for student-faculty interaction, leading the authors to recommend more carefully designed faculty participation. This finding is important because student-centered learning should not be confused with instructor absence.

Sulé and colleagues examined dialogic, cooperative case-study creation in a higher-education course. Their qualitative findings indicate that the experiential and collaborative structure fostered learning connected with dialogue and complex equity-related issues. Their study highlights an additional function of case generation: the case-writing process can require students to negotiate whose perspective is represented, how competing accounts are interpreted, and how complexity should be communicated to classmates.

Student authorship can also shift psychological ownership. In conventional case analysis, learners may view the case as a problem created for assessment. When they select or construct the case themselves, they become accountable for its credibility and pedagogical usefulness. This can increase motivation, but it also creates new responsibilities concerning evidence quality, confidentiality, representation of stakeholders, and the risk of oversimplifying unfamiliar professional situations.



3.3 Authenticity, Scaffolding, Assessment, and Case Quality

Student-generated case pedagogy faces an important authenticity problem. A case should be sufficiently realistic to support professional reasoning, but novice learners may not yet possess enough disciplinary experience to identify what makes a situation genuinely complex. Chandrasekar and colleagues found that faculty were concerned about first-year medical students' limited clinical experience and their ability to create cases comparable with expert-developed cases. Student-generated case methods therefore require scaffolding that increases with task complexity.

Scaffolding can include case templates, evidence-quality criteria, model cases, structured research questions, decision matrices, faculty checkpoints, peer feedback, and rubrics distinguishing description from analysis. Current case-based learning guidance similarly recommends authentic, relevant, focused, inclusive cases together with guided questions, rubrics, decision matrices, peer discussion, and reflection.

Assessment design is also important. Student-generated cases can evaluate more than the final written document. The research process can provide evidence of information literacy, problem definition, ethical judgment, teamwork, theory application, communication, and reflective learning. Student-created cases have been used explicitly as assessment in undergraduate contexts, with scholarship describing the approach as a student-led extension of conventional case pedagogy.

A strong assessment architecture should therefore evaluate at least three layers: the case artifact, the reasoning embodied in its construction, and the learning demonstrated after peer critique. This prevents visually polished cases from receiving high marks when they contain weak evidence or superficial reasoning. It also recognizes that revision following critique is itself an important experiential-learning outcome.

4. Research Methodology

4.1 Research Design and Synthetic Sample

The study adopts a simulation-based comparative higher-education design. A synthetic cohort of 640 undergraduate and postgraduate students was created and distributed equally across four instructional conditions, producing 160 modeled students per condition.

The hypothetical courses represented management, health sciences, education, social sciences, and applied professional studies. The disciplinary contexts were deliberately varied to avoid assuming that student-generated cases are relevant only to business or clinical education.

Table 1: Simulated Instructional Conditions for Case-Based Experiential Learning

Instructional Condition	Student Responsibility	Case Source	Peer Interaction	Reflection Component
Instructor-provided case analysis	Analyze evidence and recommend a solution	Faculty/textbook case	Case discussion	Brief post-case reflection
Student-led	Research	Existing authentic	Student-led	Structured



Instructional Condition	Student Responsibility	Case Source	Peer Interaction	Reflection Component
analysis of existing cases	additional evidence and lead analysis	case	discussion	reflection
Student-generated case development	Identify problem, investigate evidence, construct case, recommend solution	Student-selected real or realistically reconstructed situation	Collaborative case writing and peer analysis	Case-author reflection
Student-generated case + peer defense and reflection	Full case production plus defense, critique, revision, and reflective synthesis	Student-generated case with faculty validation	Peer analysis, oral defense, cross-team critique	Structured reflection connecting experience, theory, feedback, and revised judgment

4.2 Experiential Learning Measures

- Eight dimensions were modeled on a standardized 0–100 scale.
- Theory-to-practice transfer represented the learner's ability to use disciplinary concepts when interpreting realistic situations.
- Problem-framing quality assessed whether students could define the underlying issue rather than merely respond to a question prepared by the instructor.
- Evidence integration measured the ability to identify, compare, and synthesize relevant sources.
- Decision quality represented the coherence of recommendations relative to evidence, constraints, stakeholders, and alternatives.
- Reflective judgment represented the capacity to reconsider an initial interpretation after feedback or new evidence.

A composite experiential-learning score was calculated as the unweighted mean of these eight dimensions because no empirical basis was available for imposing discipline-independent differential weights.

4.3 Case-Production Procedure and Research Integrity

The strongest instructional condition followed a six-stage cycle. Students first identified a situation containing an academically relevant decision or dilemma. They then investigated the context through



credible evidence before developing a bounded narrative containing sufficient information for peer analysis without embedding an obvious preferred answer.

Faculty reviewed the draft for factual accuracy, appropriateness, privacy, and disciplinary relevance. Peer teams then analyzed the case independently and proposed solutions. The original student authors defended their framing, responded to peer challenges, and subsequently revised both the case and their own interpretation.

Real organizations or individuals were assumed to be anonymized unless explicit educational permission had been obtained. Students were not permitted to fabricate a supposedly real case. When authentic information was inaccessible, cases had to be labeled fictionalized, composite, or simulated. Because the present numerical dataset is itself synthetic, inferential significance testing is not reported. Future empirical implementation should compare equivalent cohorts, use validated outcome instruments where available, assess the quality and reliability of case rubrics, and examine whether learning transfers to unfamiliar problems after the course.

5. Analysis

5.1 Comparative Experiential-Learning Outcomes

The instructor-provided case condition produced a simulated composite experiential-learning score of 63.8. It performed reasonably on theory application but generated comparatively lower scores in problem framing and learning ownership because the core problem had already been structured. Student-led analysis of existing cases increased the composite score to 72.6, reflecting stronger research activity and peer leadership.

Student-generated cases produced a substantial improvement, with the composite score reaching 83.4. Problem framing, evidence integration, and ownership showed particularly strong gains because students assumed responsibility for determining how a professional situation should be represented. The student-generated case condition incorporating peer defense and structured reflection achieved the strongest overall score at 89.6.

Table 2: Simulated Experiential-Learning Outcomes Across Case-Based Instructional Models

Instructional Condition	Theory-to-Practice Transfer	Problem Framing	Evidence Integration	Decision Quality	Reflective Judgment	Collaboration	Professional Communication	Learning Ownership	Composite
Instructor-provided cases	71	52	59	68	61	66	67	66	63.8
Student-led	78	64	70	74	69	79	75	72	72.6



Instructional Condition	Theory-to-Practice Transfer	Problem Framing	Evidence Integration	Decision Quality	Reflective Judgment	Collaboration	Professional Communication	Learning Ownership	Composite
existing-case analysis									
Student-generated cases	87	85	84	82	80	86	81	82	83.4
Student-generated + peer defense and reflection	92	91	89	88	93	90	87	87	89.6

5.2 Why Case Production Extends Learning Beyond Case Solution

The largest difference appears in problem framing. Students analyzing prepared cases are usually asked to determine what should be done within a problem whose boundaries are already visible. Student case authors must determine what the actual problem is before proposing a solution.

This distinction resembles professional practice. Managers, clinicians, educators, engineers, and public administrators often encounter situations before they have been converted into clearly defined textbook problems.

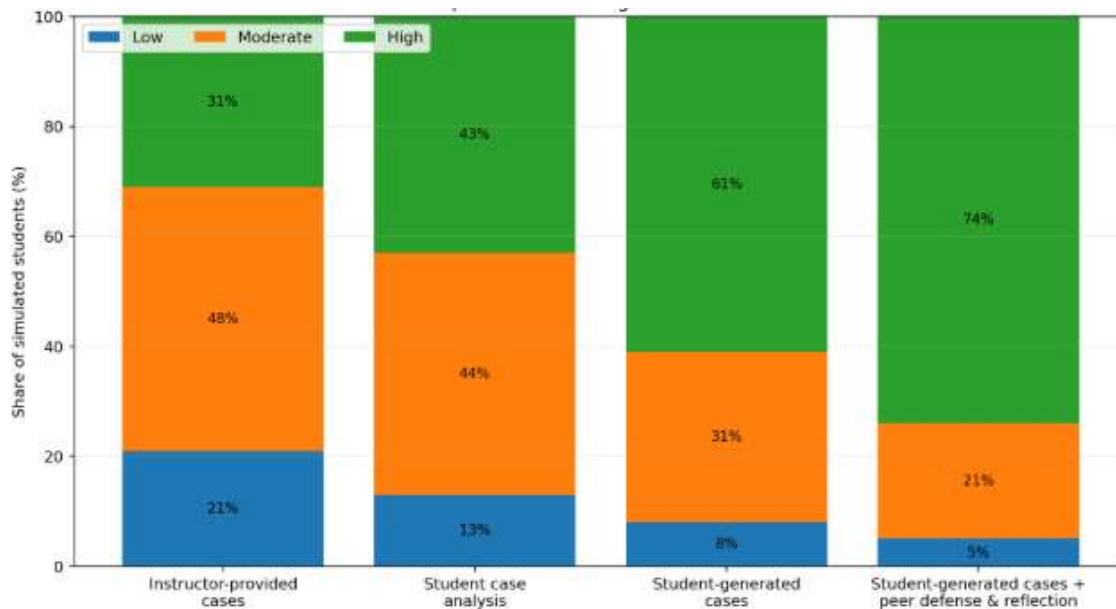
Case production also strengthens evidence integration because students have to justify why certain facts deserve inclusion. Every detail added to a case potentially influences how classmates interpret the situation.

Peer defense creates an additional learning layer. Authors discover that classmates may interpret their evidence differently, identify missing stakeholders, challenge assumptions, or develop solutions the original authors did not anticipate.

Reflection following this encounter closes the experiential loop. Students compare their intended case interpretation with how the case actually functioned when another group analyzed it.

5.3 Distribution of Experiential-Learning Achievement

Graph 1: Simulated Distribution of Experiential-Learning Achievement Across Case-Based Models



The stacked graph classifies synthetic learners into low, moderate, and high experiential-achievement categories.

The important result is not simply the increase in average performance. The stronger pedagogical models shift a substantially larger proportion of the simulated cohort into the high experiential-learning category.

6. Discussion

6.1 Student Case Authorship Expands Experiential Learning by Redistributing Epistemic Responsibility

The principal implication of the analysis is that student-generated cases change what students are responsible for knowing. Conventional case pedagogy places learners inside a professional decision but usually leaves the construction of that decision environment to an expert. Student case authors must instead determine which situation is educationally meaningful, which facts should be trusted, which stakeholders matter, what uncertainty should remain visible, and what decision the case is actually asking another learner to consider. This wider epistemic responsibility helps explain why student-generated case research reports strong ownership and self-directed learning. Good's findings indicate perceived improvements in information integration and recognition of knowledge weaknesses, while Chandrasekar and colleagues observed increased ownership and engagement during student case creation.

The educational mechanism extends beyond motivation. Writing a useful case requires learners to anticipate how knowledge will function when another person encounters it. They have to distinguish a fact that merely describes the situation from evidence that materially changes a decision. They must



determine whether the case contains too little information, so that judgment becomes guesswork, or too much, so that the central dilemma disappears beneath detail. These are sophisticated acts of disciplinary representation.

Student case authorship also reveals incomplete understanding. A learner may believe that a concept is understood until attempting to create a realistic situation in which that concept explains an outcome. Case construction therefore acts as a form of generative assessment: gaps in knowledge become visible through the difficulty of producing a coherent case rather than through an instructor's direct question.

The process is particularly powerful when cases are analyzed by peers. The student author no longer controls interpretation after the artifact is released to another group. Differences between intended and actual interpretations become evidence for reflection, helping learners recognize that professional problems can support multiple defensible readings.

6.2 Faculty Scaffolding Remains Essential to Authenticity and Academic Rigor

The second implication is that greater student control does not make faculty expertise less important. Chandrasekar and colleagues' pilot revealed this directly: increased engagement and ownership occurred alongside reduced student–faculty interaction, and participants saw value in additional instructor feedback. Faculty also questioned whether novice students possessed sufficient experience to generate cases comparable with expert-created clinical cases. Student-generated case learning should therefore be structured as guided autonomy rather than instructional withdrawal.

Faculty involvement is especially important at three points. The first is problem selection. Students need assistance identifying situations that are sufficiently complex to support analysis but sufficiently bounded for the course. The second is evidentiary review. Inaccurate facts, weak sources, or unrecognized ethical issues can undermine the learning of both authors and peers. The third is debriefing. Expert instructors can connect student discoveries with disciplinary concepts that may not emerge spontaneously from peer discussion.

Scaffolding should decrease as expertise develops. Novice learners may begin with a partially specified scenario, case template, recommended evidence sources, and structured questions. More advanced students can move toward field-generated cases involving interviews, organizational information, professional observation, or independently identified dilemmas where ethical and privacy requirements permit.

Assessment criteria should similarly reward reasoning rather than production polish. A visually impressive multimedia case should not receive high evaluation if its evidence is inaccurate, stakeholders are caricatured, or the dilemma has only one obvious solution. Strong rubrics should evaluate authenticity, conceptual alignment, evidence quality, complexity, ethical representation, analytical usefulness, and reflection.

6.3 Peer Defense and Reflection Transform Case Writing Into a Full Experiential Cycle

The strongest simulated condition combines case generation with peer defense and structured reflection. This result highlights why the final stages of the process are academically important. Writing the case



creates an experience, but experiential learning requires interpretation and reconsideration rather than activity alone.

Peer analysis acts as a form of external testing. Authors observe how another group reconstructs the problem from the evidence provided. If peers reach an unexpected interpretation, the difference may reveal ambiguity in the case, an overlooked theoretical perspective, or an assumption that the authors treated as self-evident. Cooperative case-creation research similarly suggests that dialogic engagement surrounding case construction can contribute meaningfully to learning.

Oral defense further develops professional communication because students must explain why they framed a problem in a particular way without simply insisting that their preferred answer is correct. A defensible case should permit alternative solutions when those solutions are supported by evidence. Authors therefore learn to separate the quality of a decision process from agreement with their own recommendation.

Structured reflection is what converts peer disagreement into durable learning. Students can identify which assumptions changed, what evidence they originally undervalued, which peer argument was most persuasive, and how they would investigate a similar situation differently in professional practice. Without this stage, student-generated cases risk becoming elaborate assignments rather than instruments of reflective experiential learning.

The approach also supports authentic assessment in an era when routine written tasks can increasingly be automated. Case generation grounded in context, evidence selection, peer questioning, oral defense, and reflective revision requires students to make their reasoning visible across multiple stages. Technology, including generative AI, may assist brainstorming or editing when institutional policy allows, but the student's independent evidence judgment and defended reasoning should remain assessable. Contemporary experiential-learning research involving AI similarly emphasizes that technological assistance requires careful integration with reflection and authentic learning objectives rather than substitution for the learner's reasoning process.

7. Conclusion

Student-generated case studies extend conventional case-based learning by shifting students from consumers of professionally framed problems to producers of analyzable professional situations. This shift increases the range of intellectual work required of the learner. Students must identify problems, collect evidence, determine relevance, represent stakeholders, construct uncertainty, apply theory, justify recommendations, and communicate the resulting case to others. Existing empirical research supports several elements of this proposition, including increased ownership, peer learning, engagement, self-directed learning, information integration, and awareness of reasoning complexity.

The present simulation illustrates how this broader responsibility could influence experiential learning. The composite score increased from 63.8 under instructor-provided case analysis to 83.4 when students constructed cases and 89.6 when construction was followed by peer defense and structured reflection. The proportion of synthetic learners in the high experiential-achievement category increased from 31% to 74% across the same comparison. These figures are illustrative and require empirical validation rather than being interpreted as expected real-world effect sizes.



The study also demonstrates that student-generated cases should not be implemented as unstructured independent projects. Novice learners can construct inaccurate, simplistic, ethically problematic, or pedagogically weak cases without appropriate support. Faculty therefore retain essential responsibilities for scaffolding, quality assurance, ethical review, disciplinary feedback, and debriefing. Student ownership and faculty expertise are complementary rather than competing features of effective experiential education.

The central conclusion is that the most powerful case is not always one students are given to solve; it may be one they are required to discover, construct, defend, and reconsider. When authentic investigation, rigorous evidence, peer analysis, and structured reflection are combined, student-generated case studies can operate as an experiential bridge between academic knowledge and the uncertain judgment required in professional practice.

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