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Structured Digital Reflection as Pedagogical Scaffolding

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Abstract

In professional education, students often describe practice situations in detail while struggling to analyze them through disciplinary concepts. This study examines how a structured digital reflection activity, built around three written questions in Padlet, supported students' movement from experiential description toward conceptually informed analysis in a Norwegian continuing education course in supervision. The study was carried out as a practitioner action learning project involving 23 continuing education students, all experienced supervisors of workplace apprentices, across twelve sessions held over one academic year. Four complementary data sources were analyzed through thematic analysis: the written Padlet reflections, anonymous student feedback, teacher observation notes, and peer supervision notes. The analysis produced three themes: the movement from experiential description to conceptually informed reflection; participation, visibility and collective reflection, where broadened participation did not always develop into dialogue; and pedagogical tensions between structure and open inquiry. The study conceptualizes structured digital reflection as a form of pedagogical scaffolding that can support conceptually informed reflection, while also showing that visible concept use cannot in itself be treated as evidence of analytical depth. It identifies the gradual withdrawal of structure as a central design principle. The contribution is analytical, and the study makes no statistical claim: theoretically grounded findings from one context can inform practice in comparable settings, subject to the reader's own judgment of transferability.

Keywords: *structured digital reflection, pedagogical scaffolding, action learning, analytical reflection, supervision education, Padlet.*

1. Introduction

In supervision education, reflection is a central precondition for learning and professional development [1]. A question has arisen through teaching over several years that has been difficult to set aside. Why do students who describe supervision situations in detailed and nuanced ways often struggle to analyze those same experiences through disciplinary concepts and theoretical perspectives? Their written reflections frequently remain descriptive, and the connection between learning outcomes, disciplinary concepts, and experience from practice appears weaker than the teaching intends. This points to a wider challenge in professional education. Students are expected to connect experience, theory, and professional judgment, yet reflection activities do not by themselves move students from description toward analysis. Analytical reflection requires students to examine assumptions, connections, alternative interpretations, and possible courses of action rather than simply recount events. Reflection, however, does not automatically become analytical simply because students are asked to reflect. As Dewey [2] reminds us, experience alone does not lead to learning; it becomes educational when it is examined through inquiry. The problem that motivates this study is how teaching can support students in moving from experiential description toward more conceptually informed reflection.

Digital collaborative surfaces can make students' thinking visible, broaden participation, and provide opportunities for shared reflection. These affordances do not in themselves promote analytical learning. Whether digital reflection supports inquiry depends less on the technology than on how it is designed and integrated into teaching. In this study, Padlet is treated as one example of such a pedagogical design rather than as the object of investigation itself. Research on digitally supported professional learning suggests that digital tools can support participation, make learning processes visible, and foster collective meaning making when integrated into well-designed learning activities [3], [4]. Less is known about how structured digital reflection supports students' movement from experiential description toward conceptually informed analysis, and about the pedagogical tensions that arise when reflection is scaffolded through predetermined questions. In particular, it remains unclear how structure influences the quality of reflection, whether visible concept use reflects

analytical understanding, and how structured and open reflection can be balanced across a course. These questions remain underexplored in Norwegian supervision education.

This study examines how a structured digital reflection activity, built around three written questions in Padlet, supported students' analytical work across a supervision program organized around gatherings. Two research questions guide the study. RQ1. How does structured digital reflection support students' movement from experiential description toward conceptually informed analysis in supervision education? RQ2. What pedagogical opportunities and tensions emerge when Padlet is used as a scaffold for individual and collective reflection?

The study conceptualizes structured digital reflection as a form of pedagogical scaffolding that can support conceptually informed reflection while showing that visible concept use cannot in itself be treated as evidence of analytical depth. It further identifies the gradual withdrawal of structure as a central design principle for digital reflection in professional education.

2. Conceptual Framework

The study draws on three connected ideas. Reflection is understood as inquiry, structured support as scaffolding within an aligned design, and participation as socially and digitally mediated meaning making. Together they allow the analysis to move beyond the question of whether the activity worked and toward the pedagogical conditions on which it depended.

2.1 Reflection as Inquiry and Professional Learning

Dewey [2] gives a precise account of why experience does not by itself produce learning. Experience becomes learning only when a difficult or uncertain situation disturbs habitual action and calls for what he terms inquiry, the systematic examination of the situation through which its direction can be changed. In this process, concepts and theories function as instruments, that is, as tools to think with, that let the learner define the problem, form a working interpretation, and test it in action. This account carries a consequence for teaching. The task is to support the examination of experience, so that description gives way to the disciplined working through of assumptions, connections, and alternative courses of action. Lauvås and Handal [1] develop a parallel point for supervision education, where reflection is tied to the student's practical professional theory and where the aim is to make that theory available for scrutiny. The two positions share a warning against a mechanical understanding of reflection, in which reflection becomes a sequence of steps to be completed. When reflection is reduced to a routine, the examination that Dewey placed at its center can disappear, and the student may produce the form of reflection without its substance.

Kolb [5] describes learning as a cycle that moves through concrete experience, reflective observation, abstract conceptualization, and active experimentation. The cycle usefully names the phases through which an experience can be worked and informs the design of the activity examined here, but its stepwise logic sits in tension with Dewey's account, since Dewey treated thinking and action as united within experience, whereas the cycle can separate them into successive stages [6]. Kolb is therefore used to describe movement through phases, while Dewey's notion of inquiry carries the analytical weight when the quality of reflection is at stake.

2.2 Scaffolding and Constructive Alignment

Wood et al. [7] introduced scaffolding to describe the support through which a more competent other lets a learner accomplish what would otherwise lie beyond unassisted effort. The support controls the elements of the task that exceed the learner's current competence, so that the learner can concentrate on what is within range. Two properties of the original account matter for this study. Scaffolding is temporary, and it is designed to be withdrawn as competence develops. And comprehension precedes production. The learner must be able to recognize a good solution before producing one unaided. Predetermined reflection questions can be read as pedagogical scaffolding in this sense, since they let students carry out analytical work before they can structure it themselves. The same reading carries the demand that the support be reduced over time, so that students move toward structuring reflection on their own. Structure that is given but never withdrawn stops being scaffolding and becomes a permanent frame.

Constructive alignment addresses a different level of design. Biggs et al. [8] argue that intended learning outcomes, learning activities, and assessment must activate the same verbs, so that what students are asked to do coheres with what they are meant to become able to do. What students

actually do determines what they learn, and students orient their effort toward what the activity and its assessment call for [9]. If a task invites description, description will often suffice. If it calls for analysis and the disciplined use of concepts, analytical work becomes more likely. The two ideas are distinct and complementary. Constructive alignment concerns the coherence of the design across outcomes, activity, and assessment. Scaffolding concerns the temporary support offered within the activity. Holding them apart lets the analysis ask both whether the design pointed students toward analysis and whether the support that made analysis possible was ever released.

2.3 Digitally Mediated Participation and Collective Meaning Making

Vygotsky [10] locates learning in social and linguistic activity, and his notion of the zone of proximal development describes the distance between what a learner can do alone and what becomes possible with the support of others. Understanding develops through dialogue, as learners articulate, compare, and revise interpretations in language. A shared digital surface can support this work, since it lets contributions be written, read, and set beside one another. Laurillard [11] cautions about how such surfaces should be judged. In her conversational framework, learning depends on continued iteration between theory and practice, between learner and learner, and between learner and teacher. She argues that many digital tools add logistic value, that is, more flexible access, without changing the pedagogy, and that technology must be challenged to meet the requirements of learning.

This literature supports four distinctions that the analysis holds apart: visibility means that contributions can be seen; participation means that students contribute; dialogue means that students respond to one another in ways that develop an interpretation; and collective meaning making means that a shared understanding is built through that exchange. The distinctions matter because the presence of one does not secure the next. A surface on which many students write is visible and participatory, yet visibility and participation do not by themselves produce dialogue, and dialogue does not automatically become collective knowledge development. Treating the four as equivalent would let the volume of writing stand in for the depth of exchange.

2.4 The Reflection Model Developed for This Study

The three ideas above did not arrive as a ready made model. The movement set out in Fig. 1 was designed by the first author as the pedagogical rationale for the reflection activity in this course, and it was reworked across the academic year as the action learning cycle exposed what the design had taken for granted. Taken together, the three ideas describe a movement from experience to independent professional judgment, and the conditions that make it possible.

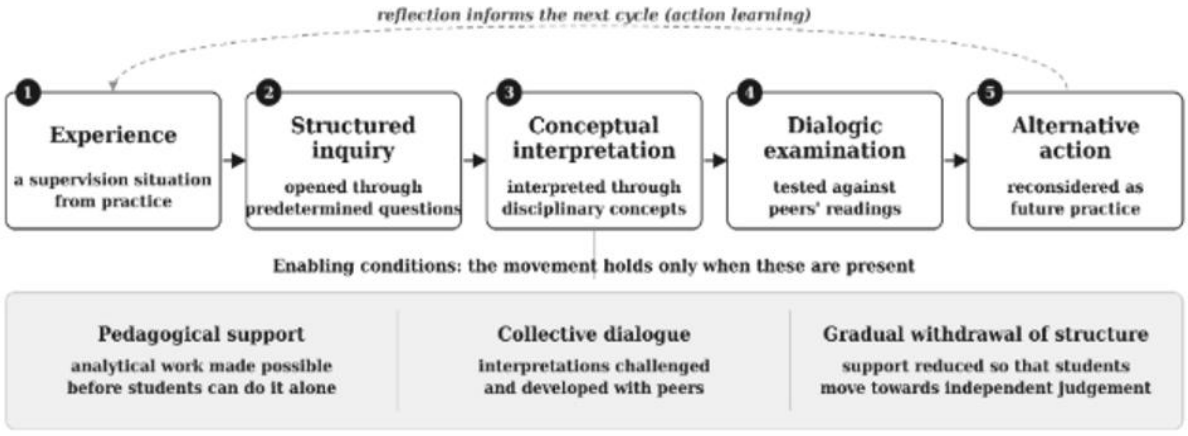


Fig. 1. The reflection model developed for this study. Five stages lead from a supervision situation to reconsidered practice, with reflection feeding the next cycle. The three enabling conditions beneath the sequence must be present for the movement to hold.

A supervision situation from practice is opened through the predetermined questions, interpreted through disciplinary concepts, tested against peers' readings, and reconsidered as future practice (Fig. 1). Reflection then informs the next cycle, in keeping with the action learning design. The movement is not self sustaining, and holds only when three enabling conditions are present. The first is pedagogical support, which makes analytical work possible before students can do it alone. The second is

collective dialogue, through which interpretations are challenged and developed with peers. The third is the gradual withdrawal of structure, so that support is reduced and students move toward independent judgment. These conditions give the framework a working function in the analysis, since each can be examined against the data as present, partial, or absent. The movement speaks to RQ1, while the conditions and the tensions among them speak to RQ2.

3. Methodology

3.1 Practitioner Action Learning Design

The study was carried out as an action learning project, in which a practice is tried out, examined, and revised across iterations [12]. A practitioner action learning project is one in which the person who carries out a practice also studies it from within. Here that person was the first author, who both taught the course and investigated it. What makes this research, and not merely teaching development, is the systematic examination of assumptions that action learning demands: Vince [13] argues that critical action learning does not stop at solving a practical problem and instead investigates the assumptions that produced it. The first author planned and carried out the intervention within an ordinary course context, generated and organized the data, and conducted the initial analysis, while the second author, who did not teach on the course, took part in the later interpretation through critical examination of codes, patterns, and findings. The study's knowledge ambition is interpretive: understanding develops through the critical investigation of practice in context [2], [13], and findings cannot be detached from the setting in which they arose. The intervention followed an action learning cycle of six phases: identifying the pedagogical problem, designing the reflection activity, implementing it across the academic year, collecting feedback and observations, examining the activity and its underlying assumptions afresh in the light of that feedback, and analyzing the process as a whole.

3.2 Context and Participants

The study was conducted in a continuing education course in supervision at a Norwegian university, taught in gatherings for working professionals. The group comprised 23 students, all experienced practitioners with varied occupational backgrounds and at least five years of experience as supervisors. In their daily work they supervised apprentices aged 18 or older, placed in companies across a range of trades, whom they followed through the full two to three year training period. The situations the students brought to the reflection activity were drawn from this ongoing practice, which made their accounts a suitable basis for the work, since the activity asked them to analyze situations from their own supervision. All 23 students submitted written reflections during the course, and all of these texts were included in the analysis. The study followed Norwegian research ethics guidelines and underwent a data protection assessment by Sikt. All participants gave informed consent. Participation was voluntary, and all Padlet entries were anonymized before analysis.

3.3 The Pedagogical Intervention

Padlet is a web based board on which written contributions appear as visible posts on a shared surface. Its pedagogical function in this study was to make reflections into shared material available to the group, so that entries could be read and compared instead of remaining private notes. The twelve teaching sessions were held as gatherings across one academic year. The first gathering ran over three days and each of the remaining eleven over two days, with every teaching day running from nine in the morning to two in the afternoon. Each of the twelve teaching sessions had its own board with one column per reflection question. Students first wrote their own reflections, for about fifteen minutes, then read and commented on one another's entries, before the session closed with a plenary discussion in which the teacher worked from patterns in the material. The three fixed questions were as follows. (1) What happened in the supervision situation? (2) Which disciplinary concepts can be used to analyze the situation? (3) What would I have done differently? The sequence was designed to move students from concrete experience through concept based analysis toward alternative courses of action, corresponding to the phases of Kolb's [5] experiential learning cycle. The question structure functioned as scaffolding [7] and was designed in line with constructive alignment [8]. The design of the activity is summarized in Table 1.

Table 1. The reflection activity by phase.

Phase	Student activity	Pedagogical purpose
Experience	Describe a supervision situation	Establish an experiential basis
Analysis	Apply disciplinary concepts and theory	Move beyond description
Alternative action	Identify alternative courses of action	Develop professional judgment
Dialogue	Read and respond to peers	Test interpretations collectively

The three question structure was held constant across all twelve sessions, and the phases in Table 1 use the same terms as the reflection model in section 2.4. The activity was not modified between early and later sessions, so that development in the reflections could be traced against an unchanged frame.

3.4 Data Generation

The study draws on four complementary data sources. The primary material is the students' written Padlet reflections from twelve teaching sessions across one academic year (273 entries in total), which allow the use of disciplinary concepts to be traced across the period. The second source is anonymous student feedback from a digital survey toward the end of the course (18 respondents, a response rate of 78%), in which students responded to questions about how they experienced the reflection work, its usefulness, and its demands. The third source is the first author's ongoing observation notes from the sessions, recording student participation, the quality of reflection, and the plenary dynamics. The fourth is notes from peer supervision, in which a colleague observed the teaching and gave structured feedback on student activity, use of concepts, and the connection between learning outcomes and activities. The four sources are complementary in the sense that the teacher's notes and the intervention are not independent of one another. The peer supervision and the anonymous feedback offer perspectives from outside the first author's own vantage point. Reading the material through several sources follows a principle of triangulation understood as breadth and transparency, not as a test that the sources converge on one true interpretation [14]. Padlet entries, which are not anonymous when written, were treated confidentially and anonymized before analysis. The survey responses were anonymous at source.

3.5 Data Analysis

The data were analyzed through thematic analysis, a flexible qualitative method for identifying, describing, and interpreting patterns across a data set [15]. The unit of analysis was the individual reflection entry, coded across all four sources. Following Braun and Clarke's six phases, the first author read the full material, coded it with short descriptive labels, sorted the codes into candidate themes, reviewed and merged them, and defined and named the final themes, using empirical examples and student statements as evidence. The subsequent development of codes, themes, and interpretations was discussed iteratively between the two authors as the analysis progressed. These discussions served to question, refine, and strengthen the developing interpretations. The approach was mainly inductive: themes were developed from the material, while the study's conceptual perspectives were brought to bear in the subsequent discussion. Because the Padlet entries span twelve sequential sessions across the academic year, they were read in the order produced and grouped into an early autumn, a mid year, and a late spring phase, so that change across the year could be followed as a comparison between phases and not asserted in general terms. Negative cases, meaning entries that remained descriptive or used concepts mechanically, were retained, since they qualify the claim of movement toward analysis. The analysis produced three overarching themes with associated subthemes, presented with illustrative extracts in the findings.

3.6 Researcher Reflexivity

The first author's dual role as both course instructor and researcher required particular attention to reflexivity. As the intervention was designed and implemented by the first author, there was a risk that expectations about its value could influence both observation and interpretation. In addition, because the reflections were written within an assessed course, students may have adapted their writing to the analytical language and expectations of the course. The findings are therefore interpreted as situated

accounts of learning rather than as direct measures of individual reflective capacity. To strengthen the credibility of the analysis, peer supervision provided an external perspective, student feedback was collected anonymously, and the developing interpretations were discussed critically with the second author, who had not been involved in teaching the course.

4. Findings

The thematic analysis produced three overarching themes, each with associated subthemes (Table 2). Illustrative extracts are used to document the patterns identified in the empirical material, while the interpretation of these findings in relation to the conceptual framework is developed in the discussion.

Table 2. Illustrative data extracts, subthemes, and overarching themes identified through the thematic analysis [15].

Illustrative data extracts	Subtheme	Overarching theme
"I came away with the flat sense that I'd delivered a monologue and not much else"	Descriptive accounts as the starting point	**From experiential description to conceptually informed reflection**
"The questions helped me to go deeper than merely describing" *"The concepts made it easier to analyze the situation"* *"The support I offered sat too far ahead of where she was"*	Concepts as interpretive resources	
"I saw more clearly how the theory could be used in practice" *"I became more aware of my own role as a supervisor"* *"shift my own role from controller to collaborator"*	From interpretation to alternative action	
"It was easier to formulate my thoughts in writing first" *"everyone had the opportunity to contribute"*	Lowered threshold for participation	**Participation, visibility and collective reflection**
"It was useful to read how others were thinking" *"easier to see what we had learned along the way"*	Learning through access to peers' perspectives	
"About 40% of entries received substantive responses, and the majority were affirming or absent (Completely agree, great point)"	Visibility without necessarily producing dialogue	
"It became a lot of text in a short time" *"could become somewhat overwhelming with many posts at once"*	Time pressure, textual overload, and cognitive load	**Pedagogical tensions**
"Perhaps fewer questions would have given more time for reflection"	Structure as support and constraint	
"it worked well, but not necessarily every time" *"What makes the apprentices give such short, closed answers?"*	Reflection as inquiry or task completion	

Note. Student statements are reproduced in quotation marks and are representative examples from the material. Longer verbatim extracts are presented within the text where they document the movement from description to analysis.

4.1 From Experiential Description to Conceptually Informed Reflection

Across the academic year, the students' written reflections appeared to change in character, moving from a descriptive, experience near level toward a more analytical working through of the supervision situations, though neither uniformly nor completely. Read in the order the entries were produced, the reflections suggested a temporal pattern across the three phases distinguished in the analysis (section 3.5). In the early autumn sessions the reflections were mostly descriptive, as the entry from the first session below shows; through the middle of the year the students began to bring disciplinary concepts to bear, though unevenly, as the third session entry in 4.1.2 illustrates; and by the late spring sessions a smaller number of entries used the concepts to reinterpret the situation and their own role, the fullest

example of which closes 4.1.3. It is the comparison across the three phases, more than any single entry, that supports the claim of movement.

Descriptive Accounts as the Starting Point

In the early sessions, attention was directed largely at what had happened. Entries recounted the course of the supervision situation, the actions taken, and the immediate impressions, with little use of disciplinary concepts. One student wrote the following in the first session.

> *Today I had my first proper supervision session with the apprentice who's been struggling to stay motivated. I'd prepared a thorough plan for going through how the placement was going, but the moment we sat down he'd barely look at me. Yes and no were about all I got. I tried smiling, asking open questions about how his week at work had been, but he just kept his eyes on the table. In the end I took over and did most of the talking myself, mainly to fill the silence. I didn't feel I reached him at all, and I came away with the flat sense that I'd delivered a monologue and not much else.*

The entry recounts the sequence of events and the student's own discomfort, and it stays with what happened. No disciplinary concept is at work, and there is no examination of why the situation developed as it did. The account is the material for reflection in Dewey's sense, and not yet its result.

Concepts as Interpretive Resources

In later reflections, students drew on disciplinary concepts as tools for analysis and interpretation. Among the concepts used were the zone of proximal development [10] and the supervision space and the practical ethical foundational problem [1]. The colleague who took part in the peer supervision made a parallel observation, noting that students referred to disciplinary concepts more often in the plenary discussions and tied their reflections more closely to the course's learning outcomes. The short statements in Table 2 document how students experienced the concepts, and they do not by themselves show the analytical quality of the reflection. A longer entry from the third session shows a concept doing interpretive work. Reflecting on a session with one of her apprentices, one student wrote the following.

> *Today my apprentice and I got completely stuck while she was trying to plan out a job on her own. She couldn't see how to break the work into steps, and I watched the frustration build until she more or less shut down. Thinking about it afterward, I realize I pitched my help well above what Vygotsky calls the zone of proximal development. She was perfectly comfortable working out the first step from what was already in front of her, which was the obvious place to begin. Instead, I went straight for the abstract rules and the whole procedure at once. No wonder she closed off. The support I offered sat too far ahead of where she was, with nothing in between to help her bridge the distance, so the gap between what she can manage alone and what she could have managed with a little guidance simply stayed open.*

Here the concept is not named as a label and left standing. The student uses the zone of proximal development to interpret a specific interaction, reads her own action through it, and arrives at an account of why the session stalled. This is the analytical work that short statements point toward but cannot themselves demonstrate.

From Interpretation to Alternative Action

The later reflections also suggest a growing awareness of the students' own role as supervisors, and a move from describing what had happened toward proposing concrete alternative courses of action. Students set out specific changes they would make, from stepping back before intervening to reframing their own position from controller to collaborator. A late spring entry, from one of the final gatherings, illustrates this pattern. One student wrote the following.

> *Reading my own position through the three Padlet questions, I realize that what I first took for "resistance" in the apprentice was really a matter of asymmetry in our relationship. I had cast myself as little more than a channel for institutional knowledge, rather than leaving room for the apprentice's own professional autonomy. Thinking it through in terms of learning oriented supervision, I can see how my readiness to intervene kept cutting across the apprentice's phases of reflection. What this Padlet sequence brings home to me is that my*

identity as a supervisor has to shift, from "problem solver" to someone who can hold productive uncertainty, and actually put it to use.

The entry does not merely name concepts. The student uses asymmetry, professional autonomy and an interventionist manner to rework the whole reading of the situation and of the supervisory role. Set beside the descriptive entry from the first session, it shows how far some students had traveled by the end of the year, while the negative cases in 4.4 show that this development was neither uniform nor universal.

4.2 Participation, Visibility and Collective Reflection

Lowered Threshold for Participation

The written, digital format produced broader and more even participation than had been usual in the oral plenary discussions. Students who rarely spoke up took an active part through the written reflections, and several described how the threshold for contributing was lowered once they could first put their thoughts into writing before speaking.

Learning Through Access to Peers' Perspectives

The visibility of the reflections created a shared space in which students could read one another's contributions and build on different perspectives, which several experienced as useful for their own learning. The comment function was used to ask questions, share experiences, and respond to peers, so that entries were developed, to some degree, in interaction with others. The written entries also made learning processes visible that would otherwise have been less accessible to students and teacher alike, and gave the teacher a basis for ongoing adjustment of the sessions.

Visibility Without Necessarily Producing Dialogue

The material also showed that visibility and participation did not always develop into exchange. Contributions were written and read, and the comment function was available, yet the degree to which comments developed a peer's interpretation, questioned it, or carried it further varied across sessions. A review of the material indicates that about 40% of the entries received substantive responses that challenged or built on the text, while the remaining 60% received either no comments or comments of a purely affirming character. The following examples illustrate the difference between comments that extended a peer's interpretation and comments that primarily expressed agreement.

I feel that I failed in the role of supervisor today, because I gave the answer too quickly instead of letting the apprentice think for themselves.

I see what you mean, and could it also be that you were unconsciously trying to protect the apprentice from feeling defeat? If you look at it as a coping strategy of your own, it may become easier to tolerate that silence next time, so that the apprentice gets thinking time.

In this exchange, the response offers an alternative interpretation that the original writer can take up and develop further. By contrast, the following exchange affirms the original reflection without extending it.

It was extremely difficult to know how much I should step in when the group started arguing about the project.

Completely agree, great point. That is exactly how I feel too.

The first exchange extends the original interpretation by offering a new perspective for reflection, whereas the second confirms the experience without developing it further. With affirming responses in the majority, the material suggests that a visible shared surface may support participation, but does not in itself ensure collective meaning making.

4.3 Pedagogical Tensions

Time Pressure, Textual Overload, and Cognitive Load

The most frequently reported tension concerned time. Both the observation notes and the student feedback suggested that the reflection work often took longer than expected, and several students

experienced the period for writing and reading as too short. A related strain was cognitive load: in sessions with many entries, some students found it demanding to orient themselves in the material while composing their own reflections.

Structure as Support and Constraint

The fixed questions were experienced both as support and as constraint. Many students found them useful supporting structures that helped them move past description, while a minority found them at times too directive and asked for more room for open reflection. One student put the trade off directly, writing that “perhaps fewer questions would have given more time for reflection.” The same structure that supported analytical reflection for some students appeared more restrictive for others, a tension the discussion returns to.

Reflection as Inquiry or Task Completion

A recurring distinction in the material was between reflections that explored a supervision situation and reflections that primarily completed the task. Some entries worked a situation through, while others answered the three questions in sequence without opening the situation to examination. Two entries show the two registers side by side. The first opens the situation to inquiry.

> *I keep going back to yesterday, to the point where the conversation just died. Whatever I asked, I got three words back. And I honestly can't tell if it's the questions or something else entirely. Maybe it's the room. We're crammed into that little office, desk between us, and it ends up feeling like an exam. Hard for anyone to think out loud when they feel like they're being marked. There's another part I don't like admitting. Sitting that close to them, I lose my footing a bit, my own authority starts to wobble, as if I have to pick between being someone they can lean on and being the one who holds the line. That's what I can't work out. How do you stay close and supportive without letting go of the professional frame, and keep that frame without it turning stiff?*

The second answers the three questions in order and closes each one.

> *(1) What happened? The apprentice was distracted during the session and did not really listen. (2) What does the theory say? This can be linked to how the supervision session is framed and to intrinsic motivation. (3) What will I do next time? Next time I will try to be clearer and set a better structure at the start of the session, so that the distraction does not take over.*

The first entry generates its own questions and leaves them open, the movement Dewey's inquiry describes. The second completes the structure correctly, and the concepts appear as brief labels attached to the situation, and not as tools that examine it. The same three questions produced both, which is why the distinction between inquiry and task completion is treated here as a main finding.

4.4 Negative Cases and Variation

Alongside the patterns described above, the material contained cases that ran against it. Beyond the minority who experienced the questions as too directive (4.3.2), three kinds of counter case appeared. Some students did not experience the surface as useful, and read the writing as an obligation to perform disciplinary language. One wrote the following.

> *Writing in here feels scattered. Mostly it's an obligation. You throw out a couple of lines about theory so it looks like you did the reading, and the part you actually wanted to get into, the stuff that's hard when you're standing in the middle of it, never gets touched.*

Some reflections stayed descriptive across the whole period, so that an entry from a late session could read much like the early examples, recounting the events of the day with no disciplinary concept at work. And some entries used disciplinary concepts mechanically or imprecisely. One student reached for a term that has no standing in the field.

> *In this situation I used positional taxonomy [the student appears to mean scaffolding] to help the apprentice further, by asking him to read through the material once more on his own.*

These cases qualify each of the three themes: the movement toward analysis was uneven, a late entry could remain as descriptive as an early one, and visible concept use could be imprecise or empty. Reporting them supports the reading that structured digital reflection created conditions for analytical work without guaranteeing it.

5. Discussion

The discussion is organized around the study's contribution. The aim is to examine the questions about reflection, learning, and pedagogical design that the experiences raise, and not merely to assess whether the intervention worked.

5.1 Structured Reflection Supports Analysis, but Concept Use Is Not Evidence of Analytical Depth

The findings point toward a movement from experience near description to a more analytical working through of the supervision situations. Students used disciplinary concepts more often, connected theory and practice more clearly, and reflected more explicitly on their own courses of action. A methodological caveat must come first: the action learning design does not allow these variables to be isolated, so it cannot be claimed that the question structure caused the change, which may also reflect increased attention, the expectation of performing while observed, or progress in the course. The design can identify patterns and connections but not causal relations, so the conclusions are held open and tentative. With that caveat, the findings raise a more basic question. What should count as analytical reflection, and how can we know that it has taken place? Dewey's [2] account of reflection is a natural starting point. Reflection in his sense requires that an experience disturb established patterns and force inquiry. When the reflection questions are predetermined and the structure fixed, it is open to question whether the reflections represent the kind of open, investigative process Dewey describes. Biggs et al. [8] warn against exactly this surface adjustment to assessment demands: constructive alignment, implemented mechanically, can lead students to deliver what is expected without deep learning necessarily taking place.

The difference between using a concept and understanding it is not necessarily visible in a written reflection product. A student who writes that a situation can be understood in the light of Vygotsky's zone of proximal development has not thereby shown that the concept has become an internalized analytical tool. This challenges the basis for treating written concept use as an indicator of analytical reflection, and points toward the need for supplementary forms of assessment, for example oral examination or follow up questions that reach the depth of understanding. The central claim of this section is that structured prompts may increase the visibility of conceptual language without demonstrating that concepts have become internalized analytical tools. A related concern follows from Kolb's [5] cycle, which was used actively in the planning. Elkjær [6] criticizes the cycle for separating experience, reflection, concept formation, and action into distinct steps, and so breaking with Dewey's insight that action and thinking are mutually constitutive. A design that follows the model closely can fragment what should be a connected experience. There is therefore reason to ask whether the three questions strengthened the integrated understanding Dewey describes, or made the reflection more procedural than investigative.

5.2 Digital Visibility Broadens Participation, but Participation Is Not Identical to Dialogue

The findings suggest that Padlet contributed to broader participation and to a more visible collective reflection. This is perhaps the finding to interpret with most caution. It is tempting to conclude that written digital formats are more inclusive than oral discussions, and the feedback supports that picture. The material does not, however, allow a judgment of whether the increased activity also meant a corresponding strengthening of disciplinary participation in the learning community. The written format probably lowered the threshold by reducing the exposure that oral presentation involves. Whether the increased participation amounted to real disciplinary mastery or an adjustment to a less demanding format, the material cannot determine, and it raises the question of how far the experience of written reflection transferred to the oral and relational situations the supervisor role requires.

Vygotsky [10] holds that meaning making is an active, dialogic process that arises in the zone of proximal development through interaction. The visibility the shared surface provided created conditions for collective meaning making, and reading others' reflections is not the same as entering a

dialogue in which perspectives are tested, challenged, and revised. The comment function opened some of this, but the material does not allow the claim that the meaning making reached the level of intersubjective inquiry Vygotsky describes: substantive responses remained in the minority and their share varied across sessions (section 4.2.3). The question then becomes whether Padlet was sufficiently integrated into a pedagogical design for dialogue. Laurillard [11] distinguishes technology used as an add on from technology integrated into a considered design. We began convinced that Padlet belonged to the latter, and are less certain in hindsight: the plenary discussions remained largely teacher led, since it was the first author who chose which patterns were brought forward. The central claim of this section is that Padlet redistributed opportunities to contribute, and did not automatically redistribute authority over the direction of the learning process.

5.3 Scaffolding Must Be Faded to Support Independent Professional Judgment

Wood et al. [7] describe scaffolding as temporary support that is gradually reduced as the learner internalizes the competence. A question we did not put to ourselves clearly enough is when and how the support should be withdrawn. If the questions are always present, they risk becoming a permanent crutch instead of a scaffold that builds capacity, and it is precisely the independent analytical capacity that a supervisor needs. One implication is a gradual reduction of the question structure across the academic year, so that toward the end students generate their own analytical questions. Read alongside constructive alignment, this suggests a progression that the fixed questions only begin. A sequence might move from fixed analytical questions, through partly open questions, to student generated analytical questions, and toward independent reflection and peer challenge. Such a progression treats the structure as a temporary condition of the design, in keeping with the reflection model set out in section 2.4, where the gradual withdrawal of structure is one of the three conditions on which the movement from experience to alternative action depends.

5.4 Methodological Limitations

The study has methodological and contextual limitations. The sample is small and context dependent, the first author held a dual role as teacher and researcher, and there was no control or comparison group, so the design cannot attribute change to the intervention. The visibility of the reflection work, and the students' awareness of being observed, may have produced an observation effect. The data are largely self reported, and short written texts are a limited indicator of the depth of reflection. The claim of development across the academic year rests on entries read in sequence and compared across the early autumn, mid year, and late spring phases, and not on a controlled comparison, so it is held tentatively. These limitations bound what the design can establish, but they do not empty it of value: it can give situated, theoretically grounded knowledge of how a structured digital reflection activity was experienced and what pedagogical conditions it depended on, though it cannot establish causal or generalizable effects. On that basis the study claims analytical generalizability, and makes no statistical claim [16]. Theoretically grounded findings from one context can inform practice in comparable teaching contexts, subject to the reader's own judgment of transferability, which is why the context, participants, data, and analytical process have been set out in detail.

6. Conclusion

This study examined how structured digital reflection supported students' movement from experiential description toward conceptually informed analysis in supervision education, and what pedagogical opportunities and tensions arose when Padlet was used as a scaffold. The findings suggest that students' reflections became more analytical over time and that participation broadened. Wider participation did not always develop into dialogue, however, and the fixed structure that supported analysis also produced time pressure and, at times, fluent conceptual language without deeper analysis.

The study's contribution is to conceptualize structured digital reflection as a form of pedagogical scaffolding, and to show that visible concept use cannot in itself be treated as evidence of analytical depth. Its central practical implication follows from this. A shared digital surface has pedagogical value only where its structure is provisional and built to be withdrawn. Where the analytical questions stay fixed, the platform tends to produce fluent conceptual language and little independent judgment, so the gradual withdrawal of structure is the design principle on which the rest depends. The limitations are real. The sample is small and context dependent, the first author held a

dual role, there was no comparison basis, and short written texts are in any case a limited indicator of the depth of reflection behind them. The study therefore makes no claim to generalizable conclusions; what it provides is experience based, theoretically grounded knowledge with transfer value to comparable settings.

Further research should examine how written concept use relates to actual analytical understanding, and how that relationship develops over time. In this project, action learning was most instructive for what it exposed about the authors' own pedagogical assumptions, and not for what it confirmed. Structured digital reflection can move students from description toward conceptually informed analysis, but only where the structure that enables it is provisional and oriented toward independent judgment. The pedagogical value lies less in Padlet itself and more in a design that treats its own scaffolding as temporary.

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