Instruct

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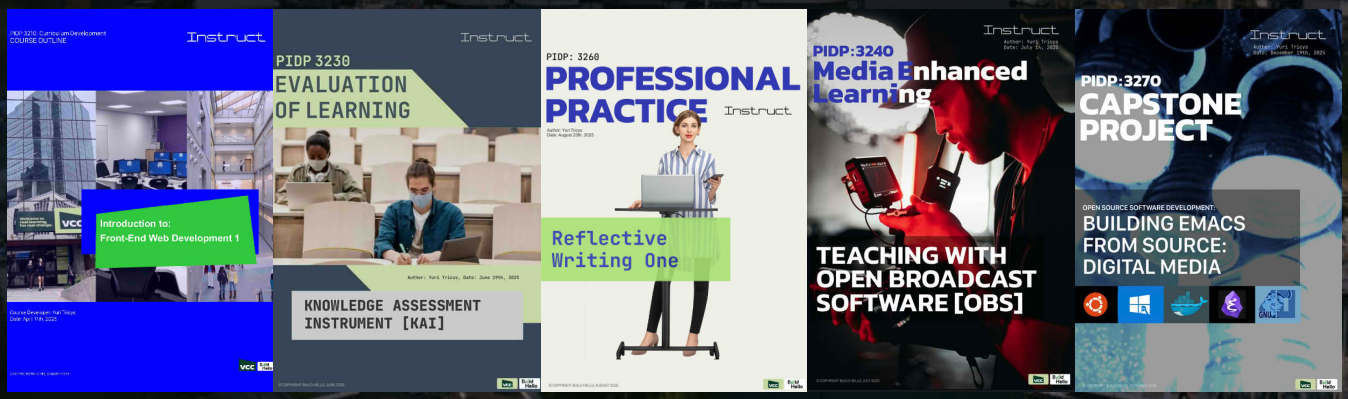
PIDP:3270
CAPSTONE PROJECT

REFLECTION ON THE PIDP



Objective Overview: A Comprehensive Summary of the PIDP

Introduction

The *Provincial Instructor Diploma Program (PIDP)* is structured as a sequence of applied, theory-informed courses intended to develop practical instructional competence for adult and post-secondary teaching contexts. This document is a post-analysis review of that certificate experience, written for audiences who may be considering the program, supporting it, or simply wanting an evidence-based snapshot of what the coursework produces in practice.

Rather than arguing for a single thesis, the paper functions as an objective overview of eleven PIDP courses. Each section follows a consistent structure: *Overview*, *Key Artifacts*, *Artifact Highlights*, *Milestones*, and (where available) *URLs* – to show what was studied, what was built, and what instructional capabilities were exercised. In this way, the document emphasizes concrete outputs (plans, instruments, rubrics, media, presentations, and reflections) while also naming the learning theories and design frameworks that informed those outputs.

3100: Foundations of Adult Education

Brief Overview

The Foundations of Adult Education course introduces central theories, contexts, and learner characteristics that are corner stones of modern adult education. It situates adult learning in a global context, where knowledge economies, and rapid technological change increase the value of an adults' accumulated experience and education.

The course examines pivotal learning theories, like behaviorism, cognitivism, humanism, social cognitive theory, and constructivism – linking each to distinct educational purposes, such as behavioural change, growth in capacity, self-actualization, and the construction of knowledge. As a foundation for learning tools for planning instruction, learners explore theoretical ideas, like the notion of cognitive development, memory, motivation, Bloom's taxonomy, and Gagné's nine events of instruction.

A major thread throughout the course, is the idea of self-directed learning: the shift from teacher-centred to learner-centred practice, where educators act as facilitators and co-designers of learning environments. Humanistic approaches, especially Carl Rogers' focus on meaningful, self-initiated learning, are examined alongside contemporary pressures for lifelong learning in complex, high-speed environments.

The theories are introduced in a way that sets the pace for the entire program. There are rigorous structures introduced, like the ORID model (Objective, Reflective, Interpretational, and Decisional), that will be applied again and again, throughout the course.

The material itself is loosely technology-mediated, such that the learner finds himself directly in a self-directed learning environment. Additionally, the pace of the program ensures a high-cognitive-load, which stimulates motivation and metacognition, against real-world constraints.

Key Artifacts

A key artifact in the course is a theory-informed position paper. The author chose to apply cognitive learning theory and cognitive load theory to computer science education, which foreshadowed future coursework,

substantiating an early foundation. The paper argued that longer, contiguous work blocks in a single problem space, over fewer days, improve learning in high cognitive-load environments.

Artifact Highlights

> ***Cognitive Learning, Spacing, and Computer Science***
>
> - *Explains core cognitivist concepts (comprehension, memory, information processing) and six research-backed strategies: spacing, interleaving, retrieval, elaboration, concrete examples, dual coding.*
> - *Clarifies intrinsic, extraneous, and germane load in complex codebases and the cost of repeatedly "reloading" large problem spaces.*
> - *Proposes scheduling and course design that reduce repeated cognitive loading while preserving spacing and interleaving.*
> - *Frames adult learners as strategic managers of their cognitive resources, with instructors designing structures that respect those limits.*

Milestones

The author's key milestones in the course included:

- Differentiating major learning theories and aligning them with the purpose of adult education.
- Explaining and applying cognitive and cognitive load theory to programming/web development.
- Translating theory into concrete design decisions (scheduling, task sequencing, scaffolding complex problems).
- Articulating an instructor role that is humanistic and facilitative while effectively using behaviorist and cognitivist tools.

Author's URLs

Cognitive Learning Spacing & Computer Science
Lifelong Learning In Web Development
The Art of Learning In The Age of AI
Slides: Adult Learning in Today's Global World
Slides: Traditional Learning Theories
Slides: Androgy

3210: Curriculum Development

Overview

The deliverables for PIDP 3210 are centered around practical and administrative aspects of instruction. The emphasis is on structuring documents that can be used to ease the burden of preparing and delivering course work to students, other faculty, administrators, and stakeholders.

Documentation is important for delineating observable metrics, enabling accountability while providing clarity. The course outline operationalizes learning outcomes introduced in the profile document, through a week-by-week schedule – in the author's case, 48 one-hour classes.

The profile document serves as a base resource for other documents. It speaks directly to stakeholders, measuring demand, defining higher-level administrative program fit, while simultaneously setting course outcomes, like learning goals, concepts, theories, and problem scenarios; as well as course themes, prerequisites, and entry requirements. There is tremendous visionary potential in the course profile, especially if it is well-designed. It scaffolds the course, giving audiences a mandatory picture of what the course can be.

The lesson plan narrows down on one of the classes, extending the higher-level vision of the course into what will become hands-on, in the trenches teaching. The alignment exercise emphasizes coherence across documents – like the profile, outline, and lesson/workshop plan – by showing how conceptual topics are translated into observable tasks, and ensuring each document references those task accurately. Two ORID reflections finish off the document list, giving the PIDP student the opportunity again to rigorously examine instructional subject matter, in the context of an academically structured paper.

All of the documents studied and prepared in PIDP 3210 combine to form a powerful curriculum writer's toolkit. The templates are formative and instrumental.

Key Artifacts

The key artifact is an outline that converts goals (learning outcomes) into a teachable sequence and assessment plan.

The author uses this document to introduce course concepts, like moving from a "dev shop" setup into foundational web languages, such as JavaScript; and designing prototyping, static site tooling, build pipelines, responsiveness, SEO, favicons, and CSPs.

The course outline is an appealing document, as it bridges higher-level concepts with classroom level detail.

Artifact Highlights

- *16-week / 48-class scope with a clear progression from setup → fundamentals → application*
- *Explicit outcomes: build, publish, and secure a simple web application*
- *Integrated employability practices: Git workflow, audits (Lighthouse), deployment (GitHub Pages)*
- *Balanced evaluation plan (capstone weighted at 30%)*

Milestones

The author's milestones in the course are the milestones in the documents mentioned above.

- Articulating, editing, and delivering the course profile
- Conceptualizing, drafting, and editing the course outline
- Creating the lesson plan
- Visualizing and preparing the alignment document

- Writing two ORID Reflections

Available URLs

Course Profile: Introduction to Front-End Web Development
Workshop Plan: Building a Form with JavaScript, HTML, & CSS
Course Outcomes And Activities Alignment
What Are the Key Changes Needed to Transform Education for the Digital Future?
Should Instructors Be Responsible for Teaching 21st Century Skills Such as Active Listening, Time Management Or Social Perceptiveness?

3220: Delivery of Instruction

Overview

PIDP 3220, Delivery of Instruction, is an exercise in applying abstruse theory to daily group activities. The constant repetition of recommended principles for instructional delivery is a stark reminder that they work.

A wide range of instructional strategies are introduced, including current event journaling, documented problem solving, flipped classrooms, mind mapping, learning logs, vision boards, role-play, case studies, and structured scaffolds. Underlying these elements is a commitment to constructive alignment: outcomes, activities, and assessment are treated as a coherent system aimed at building higher-order thinking and authentic, transferable skills.

Bloom's Taxonomy is the primary conceptual scaffold, emphasizing the progression from remembering and understanding toward applying, analyzing, evaluating, and creating. The course extends Bloom's original cognitive domain to include psychomotor and affective domains, highlighting knowledge, skills, and attitudes (KSAs) as integrated targets of instruction.

Participants examine how to decompose objectives into manageable chunks — a process known as 'chunk-and-chew' — plan minute-by-minute activities, and pre-select resources, while also documenting reflections on what went well and what did not.

Assessing prior knowledge is positioned as a critical starting point for effective teaching, with examples such as concept inventories, concept maps, and self-assessment probes used to diagnose misconceptions and strengths.

The driving force of the course, however, is the act of teaching in-person to other instructors. It's through the act of teaching in-person, that theories introduced before 3220 take shape, and the ground is seeded for the theories that will be introduced after 3220, like the 50 classroom assessment techniques introduced in Thomas A. Angelo's text "Formative Feedback Tools For College And University Teachers - Classroom Assessment Techniques."

Key Artifacts

The key artifacts from this course are a set of structured lesson plans that demonstrate alignment between Bloom-informed objectives, activities, and assessment. Those plans are created and delivered during the course timeline, which gives an on-the-fly feel every public speaker can relate to. Theory and practice are rarely close together when lesson plans are delivered to audiences.

Artifact Highlights

- *Clear lesson objectives written with appropriate Bloom descriptive verbs.*
- *Activities chunked into bridge-in, guided practice, and quick post-assessment.*
- *Embedded checks for understanding that surface prior knowledge and misconceptions.*
- *Implements a "non-specific warning" as a harm-reduction strategy while preserving institutional trust.*
- *Intentional use of strategies, for example: problem solving, discussion, mini-projects, mapped to targeted KSAs.*

Milestones

Across the course, several milestones demand instructional sophistication.

- Drafting performance objectives that explicitly reference cognitive, psychomotor, and affective outcomes.
- Designing three full lesson plans with timed segments, resources, and step-by-step implementation notes.
- Incorporating a prior-knowledge probe into a lesson design, for example: a concept map, an inventory, or a self-assessment.
- Selecting and justifying at least two instructional strategies – such as ORID questioning or flipped classroom – that support higher-order thinking for a specific topic.
- Producing a brief reflective note on what worked, what did not, and how future instruction will be adjusted.

URLs

10 Min Lesson: Describe an HTML Document
10 Min Lesson: Create a Logo
10 Min Lesson: What is CSS
Adult Learning in Today's World

3230: Evaluation of Learning

Overview

PIDP 3230 focuses on how instructors evaluate learning using principled, transparent, and instructionally useful assessment systems. The course distinguishes *assessment* as "taking stock" of learning progress and *evaluation* as the formal judgment attached to grades, then moves quickly into the practical design work required to make evaluation defensible.

Three central themes organize the course: *evaluation*, *authentic assessment*, and *knowledge assessment*. These are not only studied conceptually but also enacted through two major design projects: an Authentic Assessment Instrument (AAI) and a Knowledge Assessment Instrument (KAI), both of which are embedded in a broader evaluation plan. There are additional themes encountered throughout the course, such as discussions of real-time Classroom Assessment Techniques (CATs).

The **Authentic Assessment Instrument (AAI)** positions the learner as an instructional designer who must translate course outcomes into performance tasks that resemble real-world work. Instead of emphasizing recall, the AAI emphasizes application and integration of knowledge, skills, and professional dispositions in realistic contexts, like projects, labs, portfolios, demonstrations, or simulations. The documentation for the AAI requires clear articulation of criteria, through the creation of a rubric. It also explicitly aligns course outcomes across instruments, bridging outcomes and teaching strategies.

The **Knowledge Assessment Instrument (KAI)** focuses on more traditional testing, for example, final exam testing. The course materials describe the KAI as a formal, structured tool used to measure the degree to which students have achieved specified learning outcomes. The documentation emphasizes best practices in exam design: such as clear and complete instructions, explicit timing information, an initial scoring guide that doubles as a planning tool for students, and a rubric for the instructor.

A problem-type key clarifies the abbreviations for item formats — *Alternate Response*, *Short Answer*, *Multiple Choice*, *Restricted Essay*, *Extended Essay*, and *Graphic Items* — and the layout is deliberately clean, with ample white space and clear visual structure. The exam produced is backed by a *Table of Specifications* that maps each item to course content areas and cognitive levels, underscoring the course's concern with content validity and systematic alignment. In the context of the program, the KAI assignment demonstrates that prospective instructors can design a conventional test that is still principled, transparent, and tied to what was actually taught.

These two primary instruments are integrated within a course-wide **Evaluation Plan**. Rather than treating grading as an informal or intuitive process, PIDP 3230 requires learners to articulate a coherent scheme that ties together quizzes, assignments, labs, a capstone project, and the final exam under a criterion-referenced model. Performance is judged against clearly defined standards, not against the performance of classmates. Rubrics operationalize the evaluation categories — clarity and organization, subject-matter accuracy, design and structure, technical correctness and functionality, usability and accessibility, adherence to requirements, and professional presentation — typically through a four-level scale range, with classifications like: "limited mastery" and "superior, consistent performance."

In this way, evaluation is documented as a structured system: categories and levels are specified, weightings are justified, and the links back to course outcomes are made explicit. The evaluation plan paper thus reviews, and models, how a well-designed course makes grading criteria visible and stable for both instructor and learner.

Taken together, the course's documentation — its definitions, instrument designs, evaluation plan, and CATs — present PIDP 3230 as a rigorous, practice-oriented exploration of how instructors can design assessment that is fair, aligned, and educationally useful. The focus is as much on *how* assessment is constructed, communicated, and used as it is on *what* is being measured. In doing so, the course models for future instructors a full system of evaluation that supports learning while still meeting the formal demands of grading and certification.

Key Artifacts

The key artifact is the *Authentic Assessment Instrument (AAI): CAPSTONE Project Rubric and Specifications*. In the author's case, it translates web-development outcomes into observable performance criteria.

Artifact Highlights

- *Clear alignment of learning outcomes with observable, real-world performance tasks.*
- *Specifications that define scope, constraints, tools/technologies, and quality standards for the project.*
- *Emphasis on validity and reliability through clearly defined, behavior-based indicators and consistent scoring guidelines.*
- *Integration of low-stakes Classroom Assessment Techniques (Minute Paper, Muddiest Point, etc.) to inform and refine performance before final summative judgment..*
- *Ongoing, multi-method evaluation approach that supports iterative improvement, feedback cycles, and authentic demonstration of competence.*

Milestones

The culminating milestone is an integrated evaluation plan that aligns participation, assignments, quizzes, labs, capstone, and final exam within a criterion-referenced grading system.

- Produced an exam blueprint, with a 'table of specifications' aligned to outcomes and cognitive levels.
- Created an engineering-style capstone rubric that operationalizes "authentic evaluation" through explicit criteria and performance anchors.
- Designed CAT-informed formative approaches to identify misconceptions early (e.g., "muddiest point").
- Authored rationales defending validity/reliability through alignment, clear criteria, and transparent scoring.
- Produced a coherent course-level evaluation model attentive to fairness, stakeholder needs, and AI-era integrity.

URLs

AAI Rationale Report
AAI Self Assessment
Evaluation Plan Self-Assessment
Evaluation Plan
IAS Self-Assessment
KAI Rationale Report
KAI Self-Assessment
ORID: Writing 1
ORID: Writing 2

3240: Media Enhanced Learning

Overview

PIDP 3240 focuses on designing and producing media for instruction, with an explicit emphasis on evidence-informed multimedia design. Core course outcomes were developed through four deliverables: a multimedia research project, a media-enhanced lesson plan, a forward-looking "call to action" implementation plan, and an exit interview.

Richard Mayer's multimedia learning framework serves as a central anchor throughout the course. Mayer's work, grounded in cognitive psychology, emphasizes how learners process information through separate visual and auditory channels, and how instructional design can be optimized to reduce cognitive overload and enhance comprehension

12 Principles of Multimedia Learning

- Coherence – remove extraneous words, pictures, sounds, and decorative elements so learners focus only on essential material.
- Signaling – highlight key information and organizational structure using cues such as headings, arrows, color, or emphasis.
- Redundancy – avoid presenting the same verbal information as both on-screen text and narration when graphics are present; prefer narration with graphics alone.
- Spatial Contiguity – place related words and graphics near each other on the screen so learners do not have to search or integrate across distance.
- Temporal Contiguity – present corresponding narration and graphics at the same time rather than successively, supporting real-time integration.
- Segmenting – break complex content into learner-controlled chunks or short segments rather than one long continuous presentation.
- Pre-training – teach key terms, concepts, and component names up front so learners can better understand later, more complex explanations.
- Modality – pair graphics with spoken narration rather than on-screen text, leveraging both visual and auditory channels.
- Multimedia – use both words and relevant images (illustrations, diagrams, animations) instead of words alone to foster deeper understanding.
- Personalization – use a conversational, polite, and human-like style rather than formal, impersonal language to increase engagement.
- Voice – use a human voice for narration rather than a machine-like or highly synthetic voice to improve learner connection and processing.
- Image – do not assume that simply showing the speaker's face on the screen improves learning; include it only when it serves a clear instructional purpose.

Additionally, the guiding principles of designing for variability (UDL) are introduced. They encourage:

1. Multiple means of representation

- Video demonstrations.
- Transcripts.
- Written "tips and tricks."
- Authoritative external documentation.

2. Multiple means of action (expression)

- Making learning social.
- Buy-in.
- Planned stop-and-check prompts/points.

- Asking learners to predict outcomes, explain errors, and/or document fixes.
- Embedding self-assessment and reflection.

3. Multiple means of engagement

- Authentic tasks.
- Visible progress.
- Segmenting into short videos.
- Optional challenges.
- An emphasis on the 4Es: excite, educate, engage, evaluate.

Finally, 3240 asks the learner to commit to EDI, which stands for: *Equity, Diversity,* and *Inclusion.*

Committing to EDI means: addressing barriers and providing fair access to learning opportunities; including voices, perspectives, and experiences from underrepresented groups; and, fostering a learning environment where all students feel valued and able to participate.

The latter can be enhanced by taking steps to improve accessibility, privacy, and copyright; like providing transcripts for accessibility and searchability, and clear attribution for external resources.

The suggestions introduced in Media Enhanced Learning, may seem obvious, in the context of the modern digital age, but they are helpful in building robust digital media-centered material.

Key Artifacts

The key artifact was the “Call to Action” plan for an Emacs tutorial series grounded in multimedia learning theory.

Artifact Highlights

- *Connected media design to multiple learning philosophies (constructivist, social constructivist, cognitivist, connectivist, experiential, humanistic).*
- *Committed to intentional use of Mayer principles—especially coherence, signaling, spatial/temporal contiguity, segmenting, and pre-training—to reduce cognitive overload.*
- *Defined a clear learner audience (writers, programmers, journalists, musicians, and other heavy note-takers) and a practical learning purpose (customizing and using a personal Emacs “distribution”).*
- *Positioned the tutorial series as structured, student-centered, and iterative, emphasizing hands-on learning and reflection.*

Milestones

Major milestones again were aligned with course documentation, like the lesson plan, the action plan, and the research report.

- Completed multimedia research on OBS affordances and shortcomings for education.
- Produced a BOPPPS-structured, asynchronous lesson with objectives, pre/post prompts, and participatory practice.
- Developed a theory-aligned “call to action” specifying principles, audience, and next-step production direction.

URLs

Call to Action
Lesson Plan Rationale
Lesson Plan: Building Emacs From Source on Windows
Research Report Self-Assessment
Teaching With Open Broadcast Software

3250: Instructional Strategies

Overview

PIDP 3250 centres on practical, research-informed approaches for improving classroom instruction, with an emphasis on student engagement, motivation, and authority in learning environments. Using *Student Engagement Techniques: A Handbook for College Faculty* (Barkley & Major), the course surveys active learning methods and provides a broad toolkit of techniques that can be incorporated into lesson planning across disciplines.

In addition to the course, which explores engagement strategies, the author explores motivation theory — particularly Expectancy-Value Theory — and connects theory to authentic instructional decisions, such as what content is “worth teaching” when industry conditions are volatile. In applied terms, the course deliverables move from reflection (ORID) to analysis (motivation and management) and finally to instructional design, a strategies report.

A consistent thread throughout the course is alignment of instructional choices with learner psychology and classroom dynamics. This is emphasized in the “classroom management case study”, which expands on solutions to common teacher problems. Teachers are encouraged through course material to anticipate problems in the work place, which are sometimes contrived by students, and other times imposed institutionally; however absurd that may seem.

Key Artifacts

A key artifact is the *Instructional Strategies Report*, which applies Barkley & Major’s “Classify” engagement technique to web development instruction by teaching students the “headings” that organize conceptual knowledge. Other notable mentions include the ORID reflections, which connect neuroscience and motivation theory to instructional formats, such as live coding; emphasizing schemata, transfer, and retention.

Artifact Highlights

> - *Uses the “Classify” SET to strengthen how learners organize disciplinary knowledge rather than memorizing isolated techniques.*

- *Introduces a concrete taxonomy of JavaScript concepts (e.g., scope, events, arrays, prototypal inheritance, modules) as a retrieval scaffold.*
- *Proposes a low-cost assessment method: pairing standard problems with a follow-up classification question.*
- *Connects classification practice to neuroscientific findings on hippocampal reorganization and flexible concept acquisition.*

Milestones

Again, the milestones are aligned with the reports, and listed below.

- ORID Reflection 1 (EVT and “false expertise” risk in web development)
- ORID Reflection 2 (live coding as active learning)
- Motivation Report (future value of learning amid AI uncertainty)
- Classroom Management Case Study (proactive/reactive authority strategies)
- Instructional Strategies Report (classification as a scalable engagement tool)

URLs

Regaining Authority and Maintaining a Productive Learning Environment: Strategies for Teachers Facing Student Challenges
Categorizing Knowledge: Enhancing Student Engagement Through Classifications
The Future Value of Web Development in the Age of AI
Expectancy Value Theory in Web Development: A Word of Caution
Active Learning in Action: Leveraging Neuroscientific Principles in Web Development Education

3260: Professional Practice

Overview

PIDP 3260, Professional Practice, consolidates an instructor’s professional responsibilities, emphasizing reflective practice, ethical decision-making, and evidence-informed course improvement.

The feedback instrument paper translates instructional intent into measurable practice. The tool uses summative questions, aligned to authentic performance indicators. The paper’s strength is in the logic of its design. Each item is justified against a learning outcome. For example, the form/survey is designed with the respondent in mind. It’s easy to understand and complete, and it accounts for accessibility needs. Specifically, it includes clear instructions, where relevant, and formatting that’s easy to read.

That same transparency carries into the ethical dilemma paper, which frames instructional leadership as values-based practice. Competing duties- like: care, confidentiality, equity, and justice – are navigated through consultation, consideration of alternatives, and a layered action plan that addresses immediate harm while advocating for longer-term institutional transparency.

The blog assignment, functions as both a product and a method. By requiring the student to create (or maintain), a public-facing website with regular posts, rubric-based expectations, and attention to copyright and usability, the assignment asks the student to design a professional identity. Moreover, the posts connect

course concepts, like Brookfield's assumptions, student resistance, and teacher power, to personal teaching commitments, while the medium itself develops the digital communication competencies expected of contemporary instructors.

The self-assessment paper turns the theme of evaluation through teaching into self-observable evidence. Feedback and self-review become part of authorship: writing for an audience, revising for clarity, and treating communication as a professional responsibility. The idea that video self-review is used to examine pacing, clarity, engagement, and delivery, while acknowledging practical constraints on peer observation, supports the notion of professional practices.

Finally, through the introduction of additional models, such as 'Teaching Squares', where instructors respond to online reviews, the course reinforces metacognition as a professional habit. The pattern is to collect data, identify patterns, and commit to concrete adjustments.

Taken together, the blog, the feedback instrument, the self-assessment paper, and the ethical dilemma paper, prompt the learner toward a responsive and disciplined professionalism that uses evidence to improve learning, reflect openly on practice, and act ethically when the work becomes complex.

Key Artifacts

The *Ethical Dilemma Report* is the integrative artifact for the course, as it operationalizes professional identity in the context of conflicting interests — linking values, processes, and actions through critical thinking.

Artifact Highlights

- *Presents a realistic leadership scenario where institutional confidentiality conflicts with duty of care to a colleague.*
- *Names competing values explicitly (Care, Professional Principles, Equity, Justice) and treats each as legitimate rather than "solvable."*
- *Uses a consult-a-peer framework to move from intuition to defensible action.*
- *Implements a "non-specific warning" as a harm-reduction strategy while preserving institutional trust.*
- *Extends beyond the immediate decision to propose systemic reforms (early notification norms, contingency policies).*

Milestones

The milestones follow the usual deliverables pattern.

- Completed two ORID reflections translating Brookfield's theory into actionable teaching decisions.
- Produced a full summative feedback instrument and accompanying rationale grounded in evaluation principles.
- Developed a video-based self-evaluation practice focused on observable instructional habits and instructional pacing.
- Published five comprehensive course-related blog posts synthesizing key concepts into practical teaching insights.

- Introduced an ethical dilemma paper applying ethical frameworks to analyze and justify instructional decisions.

URLs

Blog Self-Assessment
Ethical Dilema
Evaluation Self-Assessment
Feedback Instrument
Feedback Instrument Rational
Balancing Online and In-Person Education
Too Fast, Too Far, From Velocity to Validation
Five Year Goals
Ted Talks Motivation
Ongoing Learning
Understanding Discussion in the Classroom With Brookfield
Brookfield Chapters 8, 9, 18

3300: Teaching Adults with the Brain in Mind

Overview

PIDP 3300, Teaching Adults with the Brain in Mind, is designed less as a content-delivery sequence and more as a scaffolded inquiry into teaching practice, using structured conversation, peer learning, and evidence-based presentation to move participants toward self-determined professional judgment. In the humanist/constructivist approach, the course contains no assignments, only activities – instruction is intentionally reflective and participatory: learners read, select ideas that resonate, test those ideas against experience, and then publicly articulate evolving thinking. This positions the course primarily within a constructivist and self-directed orientation, rather than a behaviorist one. While expectations are clear (due dates, minimum presentation length, required components), the central learning work is meaning-making and integration, not compliance or repetition.

Activities 1 and 2 establish the course's signature style: a focused, guided, conversation and the ORID model. By asking participants to read the text, choose a quote, and apply a structured reflective framework, the course teaches *how* to think about teaching, not merely *what* to think. The forum posting requirement extends reflection into social learning, where participants communicate experience-based life knowledge, that can inform and inspire the collaborative nature of adult learning.

The structure enables identification of knowledge gaps, and the contextualizing and building of comparative references. Operationalizing social connection in online medium is hard to do. Learners here are externalizing their reasoning, seeing alternative interpretations, and refining their own frameworks through threaded dialogue.

Activity 3 deepens this design by leveraging near-peer modeling. Watching or attending peer presentations gives learners concrete examples of performance expectations and approaches to inquiry, lowering ambiguity while preserving autonomy. The option of live participation adds immediacy and interaction, reinforcing learning as dialogic and community-based. This aligns with constructivist apprenticeship: novices learn by observing authentic practice and participating in feedback cycles.

Activity 4 makes the course's purpose explicit: to connect instructional strategies with brain-based evidence and thereby cultivate evidence-based practice. Including neuroscience and cognitive science in topic selection is not an add-on; it legitimizes theoretical choices, challenges "common sense" assumptions about learning, and equips participants to justify and adapt strategies across contexts. The required research integration, Q&A, accessibility via closed captioning, and post-presentation reflection together create a full learning loop – investigation, explanation, critique, and revision – mirroring professional practice.

The course teaches through guided structure while centering learner agency, collaborative knowledge-building, and research-informed reasoning.

Key Artifacts

The key artifact was the final presentation: *Optimizing Curriculum for Cognitive Load*, produced as `reveal.js` slides from Emacs org-mode notes.

Artifact Highlights

> - *Explained intrinsic, extraneous, and germane load, and connected each to practical curriculum decisions in computer science.*
> - *Summarized research on cognitive overload indicators and performance decrements, supporting teacher "diagnostic" awareness.*
> - *Positioned flow state as a desirable performance condition and outlined curriculum choices that make flow more likely.*
> - *Proposed "block stacking" (reduced subject switching) to minimize cognitive loading for large programming problem spaces.*

Milestones

The course milestones progressed from activity orientation to synthesis, as demonstrated in the following list:

- Conducted instructor consultation to guide instructional strategy development.
- Completed ORID reflection on serious games and game-making to translate theoretical concepts into practical teaching applications.
- Attended peer presentation to engage with and learn from colleague instructional approaches.
- Delivered final researched presentation with technical self-reflection to demonstrate integrated learning outcomes.

URLs

Computer Game Development In Instructional Design
Desktop Slides: Optimizing Curriculum For Cognitive Load
Cognitive Load, Cognitive Loading, and Curriculum Development

3320: Facilitating Learning Online Fundamentals

Overview

PIDP 3320, Facilitating Learning Online Fundamentals, is designed as a practice-based introduction to the core principles of teaching in digital environments, emphasizing that "online fundamentals" are not primarily tools, but facilitation skills: presence, interaction design, clear structure, and reflective iteration. Rather than treating online instruction as a transfer of face-to-face lecturing into Zoom, the course positions effective online teaching as an intentional craft in which learning is built through community cues, purposeful pacing, and guided dialogue across multiple modes.

The course unfolds through four activities – an introductory collaboration session, an asynchronous learning experience, a synchronous live event, and a "Pay it Forward" reflection – each modelling a distinct context for facilitation. The introductory session demonstrates how tone, instructor presence, structured Q&A, and breakout collaboration can sustain attention and lower barriers to participation in virtual spaces. Again, in this sense, the course is less behaviorist, i.e., focused on compliance and repetition, and more constructivist and self-directed: participants learn by observing facilitation, engaging in interaction, and extracting principles to apply in their own practice.

The asynchronous component is especially instructive because it frames asynchronous learning as a persistent, revisitable environment rather than a second-best substitute for live teaching. By building and deploying a dedicated website that hosts content and invites comments, the activity highlights how platform design, usability, and relevance shape participation, and how the "conversation" of an online course often happens through written, time-shifted exchanges. This conversational orientation connects directly to learning theory: meaning is co-constructed through externalized reasoning, peer comparison, and iterative refinement of ideas.

The synchronous live event further develops facilitation fundamentals by showing how real-time teaching requires both preparation and responsiveness. Using "AI for Educators" as a discussion topic surfaces authentic tensions – productive versus harmful uses of AI, boundaries for student use, academic integrity, AI detection, and even instructors' use of AI to generate materials – thereby modelling how online facilitation can support complex, values-laden inquiry rather than mere information delivery.

Collaborative learning is emphasized precisely because it is harder online: it must be engineered. The course design emphasizes subtly collaboration, foreshadowing the subsequent course.

The culminating reflection reinforces a continuous-improvement mindset, positioning online facilitation as an iterative professional practice grounded in community, clarity, and intentional design.

Key Artifacts

The key artifact was a `reveal.js` slide presentation used to guide a synchronous session on major AI models and classroom implications.

Artifact Highlights

- *Surveyed the AI landscape (OpenAI, Google, Meta, Anthropic, Perplexity, and others) to contextualize educator-facing tools.*
- *Structured discussion around three facilitation prompts: AI as impediment, AI as learning tool, and enforceable classroom rules.*

- *Addressed integrity concerns by demonstrating AI-detection tooling (e.g., ZeroGPT) and discussing limitations and policy implications.*
- *Modelled an interactive webinar flow with Q&A and participant perspectives from different teaching contexts.*

Milestones

Major milestones followed closely the activities structured in the course.

- Hosted and recorded a synchronous session with guided collaborative prompts.
- Structured discussion around three facilitation prompts: AI as impediment, AI as learning tool, and enforceable classroom rules.
- Built and published a website with GraphComment integration.
- Produced a “Pay it Forward” reflection video identifying actionable presentation refinements

URLs

AI Asynchronous Forum and Synchronous Promotion
Blog Post: AI Powered Adaptive Learning
Blog Post: AI Tools for Teachers
Blog Post: AI Ethics And Bias in Education
Blog Post: Fostering AI Literacty in the Classroom
Blog Post: Personalized Learning With AI
Intelligent Tutoring Systems: AI and Critical Thinking
AI and Assessment
Teacher Training for AI Integration

3340: Collaborative Learning in the College Classroom

Overview

PIDP 3340, Collaborative Learning in the College Classroom, is designed as a practice-oriented, community-facing course in which participants are encouraged to learn collaboration by repeatedly engaging in it. Rather than operating as a behaviorist, content-transmission model, the course aligns most strongly with constructivist and self-directed adult learning: participants choose topics, interpret research, build artifacts for authentic teaching contexts, and refine their thinking through structured peer exchange. The online medium is treated not as a barrier, but as a design challenge – one that is addressed through deliberate, visible participation in forums and presentations so that reasoning, examples, and resources can be shared and revisited.

Collaboration is operationalized through sequenced activities that depend on peer contribution. The presentation observation activity requires participants to learn from those nearing course completion, either by attending live and participating in Q&A or by watching recordings and posting a substantial reflection. This positions peers as near-expert models and makes the “learning community” tangible: participants do not only consume information, they respond to it, identify what stands out, and translate ideas into future practice. The reflective prompts push beyond opinion toward professional rationale (why an idea matters, how it will change practice, and which resource will be used, with specific examples).

The lesson-plan or course-plan activity further clarifies the course's instructional approach. Participants must design a collaborative or cooperative learning experience and justify key choices – why collaboration, why a specific strategy, how groups will be formed, how the activity will be debriefed, and how learning and participation will be assessed. This rational emphasis connects directly to teaching theory: it requires participants to articulate the relationship between learning outcomes, instructional strategy, and evaluation, and then test those decisions against peer critique in a required forum response.

Again, the presentation-and-reflection activity extends the dialogic model. Topics invite inquiry into research foundations, distinctions between collaborative and cooperative learning, group development (e.g., Tuckman), assessment of group work, and online collaboration strategies – signaling that the course treats collaboration as both theory and method. Publishing the recorded presentation with closed captioning and a minimum set of APA resources makes the work accessible and reusable for others. However, the requirement to post the recording and reflection in the forum – often via a blog-style post with embedded media and linked references – also introduces an authentic challenge: translating a live teaching performance into a coherent, shareable online artifact. The summative meeting closes the learning cycle through conversational post-assessment, reinforcing that reflective dialogue is not supplemental to the course – it is the core principle.

The course's conversational aspect aligns with teaching theory by operationalizing facilitation: the facilitator is assessed on creating conditions for participation, sustaining inquiry, and supporting a community through timely responses and moderation. This makes "teaching" observable in the learning space, not hidden behind content expertise.

A notable challenge embedded in the design is the public-facing, multi-step nature of the blog-based work: participants must craft a coherent post that promotes the session, schedule and host materials, and then share a presentation in a way that invites comments and ongoing engagement. The task is both technical and rhetorical–requiring clarity, accessibility, and community-building – mirroring the real demands of facilitating collaborative learning online.

Key Artifacts

The key artifact is the *Capstone Project Plan* that operationalizes cooperative learning through "Assignment Configurations."

Artifact Highlights

- *Defines collaborative/cooperative rationales and team formation guidelines (heterogeneous grouping, role formalization, accountability).*
- *Implements "assignment bundling" via 36 interdependent components with weekly milestones and integration requirements.*
- *Builds quality and professionalism through audits (Lighthouse, SEO, accessibility), version control workflows, and peer review roles.*
- *Connects course learning to industry realism: deployment, security practices (CSP), documentation, and presentation deliverables.*

Milestones

Major milestones include observing and responding to a peer presentation, producing a collaborative-learning presentation, drafting a substantial capstone plan, and completing a summative meeting.

- Observed a peer's presentation and contributed a forum response with targeted feedback.
- Drafted a capstone project plan integrating cooperative learning structures.
- Recorded a presentation introducing "Assignment Configurations" and their classroom applications.
- Produced a presentation reflection emphasizing communication improvements and technical readiness.
- Facilitated a summative meeting to confirm course understanding and document progress.

URLs

Assignment Configurations - A Small Step in the Classroom Toward High-Performance Teams
Presentation Reflection
Slides: Collaborative Learning Strategies to Inspire High-Performance Teams

3351: Feedback Strategies

Overview

PIDP 3351, Feedback Strategies, is built around two interdependent instructional foundations: preparing learners to learn, through mindset and neuroplasticity, and strengthening assessment literacy, through assessment *for/of/as* learning, culminating in media-enhanced feedforward and reflection. Rather than treating feedback as a terminal comment on performance, the course frames learning as malleable and improvement as cyclical. To align with course initiatives, the author offers narrative and evidence-based examples, for example, taxi-driver neuroplasticity, high-performance training, and rehabilitation stories, to normalize struggle and reposition error as information. This is the intention in the syllabus, to establish an affective and cognitive readiness for feedback to be received and used.

Again, in the author's work, feedback loops function as iterative cycles in which information about current performance is used to adjust strategies, effort, and next steps. Educationally, these loops are visible both in the content, through explicit attention to self-regulation and experiential cycles, including Zimmerman's forethought-performance-self-reflection and Kolb's learning cycle, and in the course's activity structure. The course does not rely on traditional assignments; instead, it sequences activities that repeatedly require learners to produce an artifact – make thinking visible, invite response, and then refine understanding through reflection and re-expression. This establishes a constructivist and increasingly self-directed model: participants are guided by clear specifications, for example, blog posts, videos, forum engagement, and APA sourcing, yet the learning is built through interpretation, application in a chosen context, and peer-informed revision, rather than behaviorist reinforcement.

Module 1 operationalizes "preparing learners to learn" through the creation of a public-facing blog post and accompanying video that can move students from a fixed to growth and "Learner's Mindset." The act of translating theory into a digital resources and then promoting it in a forum creates an authentic communication challenge: the participant must craft a coherent message, design for readability and aesthetics, and manage the vulnerability and technical complexity of publishing and sharing multimedia online.

Module 2 extends this work into assessment literacy by requiring a second blog post and video explaining assessment *of/for/as* learning, with an explicit purpose of moving learners toward self-assessment and

autodidactic practice. Peer commenting and moderation make feedback social and comparative, enabling learners to identify knowledge gaps and calibrate their thinking against others' interpretations.

Module 3 makes feedback itself the instructional medium through audio/video feedforward, emphasizing tone, clarity, and workflow to "triple the volume" of guidance. Module 4 consolidates the loop through structured reflection – like video, interview, or ORID writing – aligning with the course premise that deeper learning is demonstrated by explaining learning to others.

Key Artifacts

A research-informed academic blog post: *"Adaptive Feedback Loops and AI: Transforming Education Through Human-Centered Learning."*

Artifact Highlights

- *Connects the for/of/as learning triad to Zimmerman and Kolb to describe feedback as cyclical self-regulation and experimentation.*
- *Explains how LLM "generative assessment" can provide individualized, real-time prompts that support engagement and justification quality.*
- *Introduces GAN-based synthetic data as a way to analyze bias and patterns while protecting learner privacy.*
- *Positions "as learning" as co-creation: learners critique AI outputs and improve the feedback loop itself.*

Milestones

Key milestones include producing two deployable communication artifacts - a growth-mindset "preparing learners" post and an academic AFL post.

- Published a mindset-based learner primer with actionable reframing tools, and presented it in video
- Developed an assessment framework linking for/of/as learning with cyclical learning models, and presented it in video
- Critiqued a fellow learners presentation module, and presented a video of it

URLs

Adaptive Feedback Loops in AI: Transforming Education Through Human-Centered Learning
Get Smart: Leverage a Growth Mindset to Build Fluid And Crystalline Intelligence

Conclusion

This review documented the PIDP certificate program as it was experienced: course-by-course, artifact-by-artifact, and with attention to both theory and production. As a whole, the paper frames the program less as a set of abstract ideas and more as a structured progression of instructional design, delivery, assessment, media development, facilitation, and professional practice – made visible through tangible work products and linked evidence. For readers using this document to understand the nature of PIDP, the sections above provide the

program's practical footprint: what it asked learners to do, what it expected them to produce, and what kinds of instructional judgment it repeatedly trains.

References

Khanna, R. (n.d.). An aerial view of a city and a harbor [Photograph]. Unsplash. Retrieved December 15, 2025, from https://unsplash.com/photos/an-aerial-view-of-a-city-and-a-harbor-3QUtRKjzW6I

AI Models Used In This Report: Various AI models were used to research, collect, and verify data, format arguments, and grammatically structure content. Models used include: Qwen3-coder:30b-a3b-q4_K_M, Gemma3:27b-it-q4_K_M, Llama3.1:70b-instruct-q3_K_M, llama3.1:70b-instruct-q2_K, gpt-5.2-2025-12-11,GPT 5 Nano, GPT 5.1, Qwen-3-14B,Llama-3.1-8B,Claude-3.5-Haiku, Gemma-12B