EMPLOYING THE FUTURE:
TEACHER EXTERNSHIPS AS A CATALYST FOR CAREER-CONNECTED CLASSROOMS

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ABSTRACT

This single descriptive case study examined how a STEM externship program in the central United States influences K–8 teachers' investment in and integration of work-based learning (WBL). Using Kolb's Experiential Learning Cycle (ELC) as the analytic lens, nine educators submitted lesson plans and participated in interviews and 3–5 person focus groups. Teachers reported moving repeatedly through all four ELC stages during the externship experience. Four themes emerged—continuous improvement; real-world connections and curriculum; collaboration; and communication—enabled by mentor support, structured reflection, professional learning communities, and access to industry partners. Findings suggest that well-designed externships can build teacher capacity to contextualize learning, align instruction with contemporary workplace practices, and embed authentic WBL in K–8 classrooms, with implications for practice, policy, and future research.

BACKGROUND

K–12 pedagogy often remains misaligned with contemporary workforce expectations. Many educators have limited exposure to industry, which complicates the design of authentic WBL and the development of transferable skills in students. WBL includes learning in the workplace and classroom learning explicitly connected to the workplace. Teacher externships, structured time in industry settings with reflection and curriculum co-design, offer a means to strengthen teacher capacity for career-connected instruction.

RESEARCH QUESTION

How does a STEM externship program in the central US impact elementary and middle school teachers' investment in and integration of work-based learning practices?

METHODS & MATERIALS

- Design: Single descriptive case study.
- Participants: Nine K–8 educators (externs and/or coordinators) in a STEM externship program.
- Data Sources: Lesson plans; individual interviews; focus groups (3–5 participants).
- Analysis: Evidence of engagement with ELC stages; perceived supports; impacts on instructional design and use of WBL practices.

FINDINGS

Engagement with ELC: Teachers reported cycling through all four stages of the ELC multiple times during externships, indicating iterative learning tied to authentic workplace contexts.

Themes (four):

1. Continuous improvement (self, understanding of industry practices, and curriculum).
2. Real-world connections & curriculum (relevance, authentic application, transferable/"soft" skills).
3. Collaboration (with industry, teachers, students, community).
4. Communication (gathering and sharing information effectively).

Supports that mattered: Mentor engagement, structured reflection (journals, roundtables), PLCs, and access to industry partners were consistently cited as enabling movement through ELC stages and transfer to classroom practice.

Reported classroom changes: Increased confidence designing authentic, standards-aligned units anchored in industry problems of practice, with explicit attention to transferable skills (collaboration, problem-solving, communication).

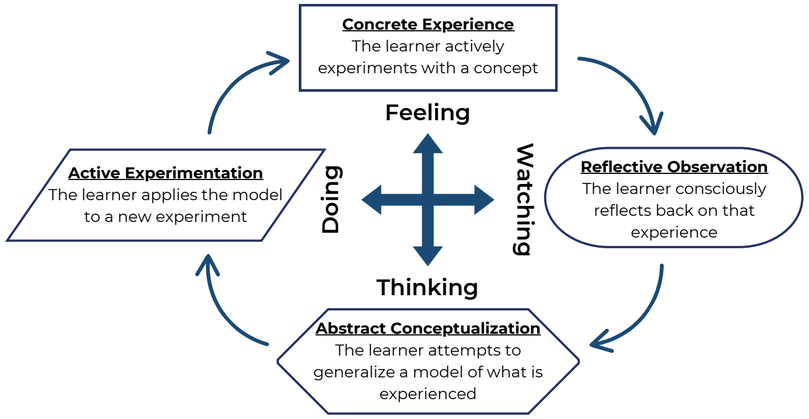

Figure 1. Kolb's Experiential Learning Cycle (ELC)—Concrete Experience, Reflective Observation, Abstract Conceptualization, Active Experimentation—used as the analytic lens for this study.

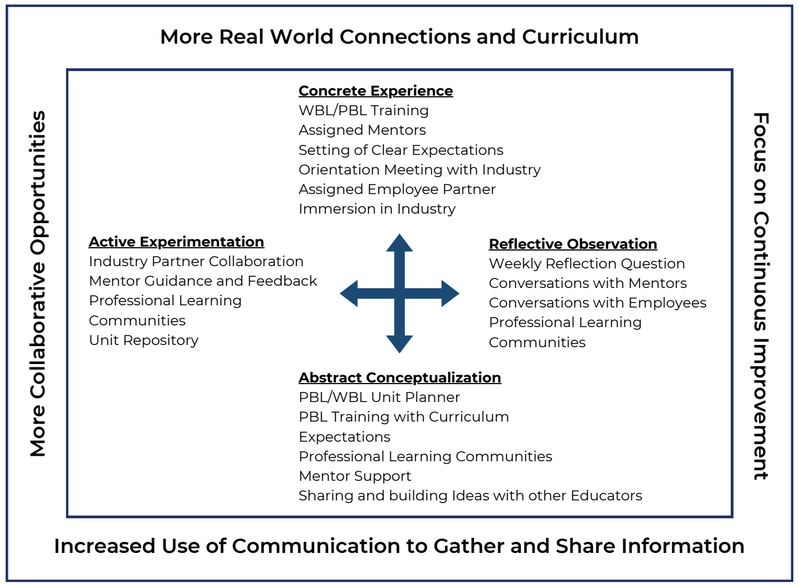

Figure 2. Externship supports mapped to Kolb's Experiential Learning Cycle and reported classroom impacts. Supports included on-site mentoring, workplace immersion, and cross-department interviews (Concrete Experience); guided reflection prompts, mentor check-ins, and PLC/roundtable debriefs (Reflective Observation); coach-supported unit planning and standards alignment (Abstract Conceptualization); and classroom trials with formative assessment and revision cycles (Active Experimentation). Reported impacts included stronger real-world curriculum design and increased teacher confidence implementing WBL.

CONCLUSIONS / DISCUSSION

Externships that pair hands-on industry experience with mentoring, structured reflection, PLCs, and authentic problems of practice appear to strengthen teacher capacity to implement WBL in K–8 curricula. Findings point to a shift from coverage-oriented instruction toward career-connected, future-focused learning that emphasizes real-world application and essential employability skills.

RESEARCH-INFORMED APPLICATION

ExGen operationalizes the study's supports as a professional learning model for educators:

- Externship (≈14+ days) with an industry mentor → Concrete Experience.
- Guided reflection (journals, roundtables) and PLCs → Reflective Observation.
- Coach-supported unit co-design around an authentic industry "problem of practice" → Abstract Conceptualization.
- Classroom implementation, assessment, and revision → Active Experimentation.
- (See Figure 2 for the ExGen educator process.)

ExGen Educator Process:

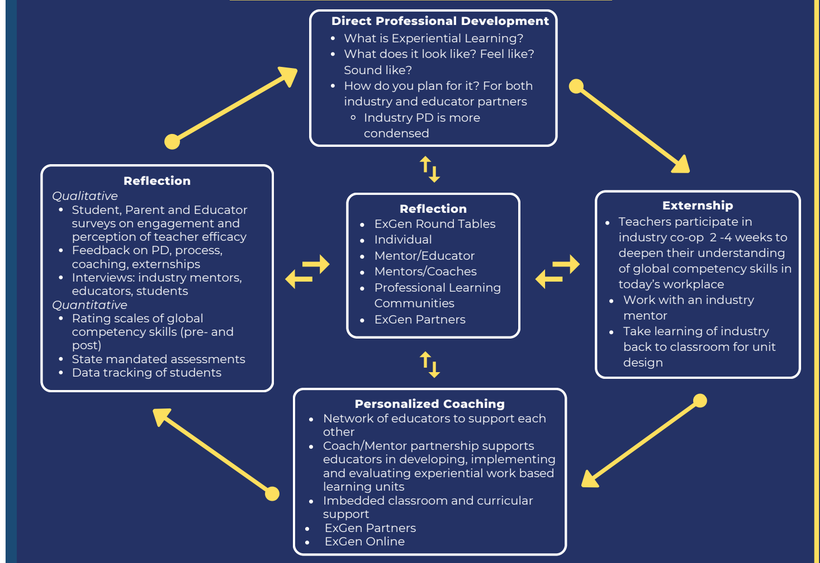

Figure 3. ExGen Educator Process pipeline (Externship → Reflection/PLCs → Co-Design → Implement → Assess/Revise), illustrating alignment with ELC stages. Developed following the study; shown here as a research-informed application.

EXGEN THREE-BRANCH MODEL

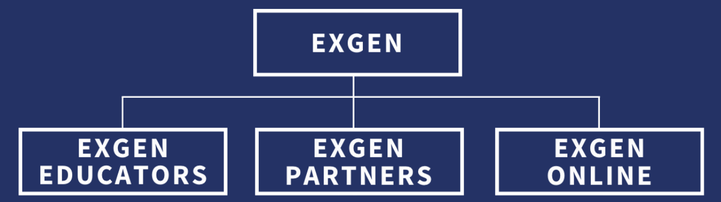

Figure 4. ExGen links Educators (year-long externships), Partners (K–12/industry/higher-ed co-design), and Online (repository + collaboration). This structure operationalizes the study's key supports—mentoring, reflection/PLCs, and authentic industry problems—in one system.