The S.E.L.F. Approach: Systems and Experiential Learning Framework for Fieldwork and Capstone Education Development

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Abstract
This article presents an evidence-based strategy to assist academic fieldwork coordinators and capstone coordinators with meeting the Accreditation Council for Occupational Therapy Education standards of experiential learning components in an entry-level doctoral occupational therapy curriculum. The S.E.L.F. approach core methods for pedagogical framework and manual development are based on systems theory and educational learning theories. To optimize fieldwork and capstone delivery, the recommended process should include organizational analysis, program development, manual writing, and implementation of practical learning experience. Objectives of the fieldwork and capstone experiences can effectively connect to the overall curriculum design while addressing integral credentialing standards through an evidence-based approach. The applied learning theories are pertinent for educators to objectively deliver beneficial experiential pedagogical outcomes for student professional growth. This article provides a logical fieldwork and capstone framework for pedagogical and manual development. The S.E.L.F. approach transforms learning to meet objectives of the occupational therapy program, students, and other potential audience stakeholders.

Comments
The authors report no potential conflicts of interest.

Keywords
occupational therapy education, fieldwork development, doctoral capstone, manual, experiential learning framework

Erratum

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The Accreditation Council for Occupational Therapy Education (ACOTE) outlines standards that occupational therapy (OT) programs must address. The entry-level doctoral occupational therapy curriculum, which includes fieldwork education and the doctoral capstone, is required to demonstrate effective program outcomes that bridge didactic education to clinical practice (ACOTE, 2018). However, to address the congruence of the experience and actual learning, aspects of the program need to be based on learning theory. Beard and Wilson (2013) indicated higher education postsecondary experiential learning fosters student learning. Specifically, in OT education, experiential learning occurs in the fieldwork and capstone requirements. Costa (2015) emphasized the importance of theory-driven development in experiential learning to ensure experiences are grounded in how students learn best.

Much has been published directly on the student experience in fieldwork and the capstone; however, development guidelines for fieldwork and capstone pedagogy vary for each OT program. Part of the administrative role of the academic fieldwork coordinator (AFWC) and the capstone coordinator (CC) is developing experiential learning and creating a manual (DeLuliis & Bednarski, 2019). This process would benefit from incorporating a framework and an evidence-based approach (American Occupational Therapy Association [AOTA], n.d.; AOTA, 2000; Costa, 2015; Hanson et al., 2015). A search of the databases EBSCOhost, PubMed, and ProQuest demonstrated that there is limited current literature related to learning theory in reference to capstone and fieldwork development. There is a predominant focus on only student perspectives and fieldwork performance associations in research, according to a systemic mapping review of OT fieldwork education by Roberts et al. (2015). The results from Roberts et al. revealed only 10% of published works on the topic of fieldwork included learning models and methods of delivery, which emphasizes the need for evidence-based pedagogical models that would help with these endeavors.

ACOTE (2018) Standards A.2.4 and A.2.5 are limited to the definition of the role of competency of an AFWC and a CC (ACOTE, 2018). The standards do not guide the AFWC and the CC on the development and maintenance of experiential learning. ACOTE (2018) C and D standards do not provide pedagogical evidenced-based development strategies. Outside of policy management, learning theories have not been integrated when addressing the design of experiential learning. AOTA offers a sample fieldwork manual table of contents that is outdated (AOTA, 2000). Educators identify the need for both an evidence-based manual and for integrating learning theories into the fieldwork experience (Costa, 2015; Hanson et al., 2015) and the doctoral capstone experience (DeLuliis & Bednarski, 2020). However, educators must go beyond the compilation of facts, student behavior expectations, and descriptions of fieldwork and capstone sites in the manual development. There is an identified need to incorporate educational expectations and learning outcomes grounded in learning theory in order to remain accountable to student learners.

The application of an evidence-based or evidence-informed approach to teaching, learning, and assessment practices has been a significant concern for educators who are responsible to students, academic programs, the educational institution, and society at large (Durning et al., 2012; Thomas et al., 2016; Van Der Vleuten et al., 2000). Infusing evidence and remaining accountable to the learner are critical pedagogical strategies in the OT experiential learning opportunities of fieldwork (AOTA, 2016a) and capstone. A theoretical framework is necessary for the structured connection of the learning opportunity objectives in the experiential learning (Moore, 2010). Vital elements in constructivism, Bloom’s Taxonomy, and experiential learning theories provide a foundation for the development of fieldwork and capstone (Costa, 2015). The development recommendations using evidence and theory for
a written fieldwork and capstone manual will connect coursework to guide learner insight and real-world practical experience. The AFWC and the CC have these multifaceted educational responsibilities that will need to validate standards and outcomes in order to enhance the education of future occupational therapists.

This article offers the Systems Theory Experiential Learning Framework (S.E.L.F.) approach. The S.E.L.F. approach is a structured evidence-based theoretical approach to the process of planning, designing, developing, writing, and evaluating fieldwork and capstone education and the accompanying manual, which is key to the learning experience. In many disciplines, a handbook or manual serves to detail behavioral expectations and the existence of a safe, productive learning environment (Newcomer et al., 2002). The S.E.L.F. approach to the framework and manual writing process is grounded in systems and learning theories with core development strategies of plan, design, develop, write, and evaluate. Figure 1 provides an overview of theory incorporation in the development process of the S.E.L.F. approach. The technical writing is adapted from Slatkin (1991). This approach describes considerations for each stage of development related to fieldwork and capstone.

**Figure 1**

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**Systems Theory and Knowledge Translation**

The S.E.L.F. approach serves as a means to describe integral components of the curriculum and as a means to translate knowledge to the intended stakeholders. Integrated knowledge translation describes the process of making research applicable to health systems, which results in stakeholders using the research to inform decision-making processes and practices (Gagliardi et al., 2015).
Developing a framework is one strategy used to translate research outcomes into accessible information for stakeholders (Graham et al., 2018). In a similar way the S.E.L.F. approach can translate the policies and practices of a program to students who can then use the knowledge to inform their practice in the educational experience.

When viewed holistically, the educational experience is part of a larger system with various competing influences. Systems thinking is an approach that allows an organization to be seen as part of a whole system while understanding the components that impact each other and the organization as a whole (von Bertalanffy, 1968). The systems thinking approach allows for an examination of problems before developing solutions. This approach provides identification and comprehension of each element individually and as a part of the whole. In the systems thinking model, the S.E.L.F. approach can assist in connecting fieldwork and capstone, the experiential components of the curriculum, with the philosophy, vision, mission, and purpose of the OT program and university. This approach also allows for outlining a response to the external influences in the higher education environment where there is a hierarchy or nesting that can occur in the academic system.

Figure 2 presents a systems thinking example of a traditional university context with a hierarchical model. In this model fieldwork and capstone are experiential learning components in an OT program. The OT program is in a school, and that school is located in a university or college. External forces, pressures, and expectations influence these systems. For instance, ACOTE specifies standards that OT programs must follow to maintain accredited status. This has a direct influence on the OT program, as well as on the fieldwork or capstone experience. It will also impact the entire system, as the university is responsible for ensuring the program has the necessary resources (i.e., personnel and financial resources) to meet the accreditation standards.

Figure 2
Systems Thinking: Internal and External Influences in Fieldwork and Capstone Development
Stage 1: Plan

The plan phase for the S.E.L.F. approach aligns with strategic planning and provides a framework for the entire writing process. Defining an audience, objectives, and an evaluation plan during the planning phase are necessary grounding steps for the whole process. Strategic planning provides programs the opportunity to link vision, mission, programmatic goals, and priorities in the decision-making process (Hinton, 2012). The AFWC and the CC are the architects of the learning experience. The fieldwork and capstone manual outlines the expectations of every student and guides the development and implementation of a shared vision of learning based on the program’s mission. It helps to set expectations and provides context for obtaining achievement in the learning experience.

The strategic planning process, outlined in Figure 3, is an iterative process that begins with an OT program completing a strengths, weaknesses, opportunities, and threats (SWOT) analysis. A SWOT analysis is used as a strategic method to develop programming in health care and academic organizations. A SWOT analysis describes external developments as opportunities or threats and internal capabilities as strengths or weaknesses (Van Winjngaarden et al., 2012). After completing a SWOT, OT programs engaging in the strategic planning process can then identify the mission and vision of the program and develop goals and objectives based on the SWOT analysis and identified mission and vision. Assessing progress toward goals and objectives, ideally on an annual basis, allows programs to analyze results from the implementation of the strategic plan (Hinton, 2012). OT programs will use results from the implementation phase to inform the annual update of the strategic plan.

Figure 3
The Process to Develop, Implement, and Assess a Strategic Plan

Note. Adapted from Hinton, 2012. OT programs can use the SWOT analysis annually to revisit the program’s mission and vision and develop goals specific to the current programmatic environment. This analysis process ensures systematic review of programming to meet ACOTE (2018) Standard A.6.1 that requires strategic planning that will incorporate the entire program in the implementation of programmatic changes. This annual SWOT analysis may identify internal and external processes impacting fieldwork and capstone experiences.

Incorporating Systems Thinking

An OT program’s mission and values nest in the broader institutional goals that are set in the strategic planning process. In this planning phase, after the OT program defines the audience of the fieldwork and capstone manual (students and/or fieldwork educators and/or capstone mentors), it can decide on the content and objectives, which may consist of the inclusion of accreditation information. When writing a manual for more than one audience, the material can be grouped for each audience and presented in parts of one manual or a separate manual can be created for each audience. An audience guide after the table of contents could identify the sections appropriate for each audience. The design
and delivery of fieldwork and the capstone experience also relates to accreditation standards, which are external influences in systems thinking. The 2018 ACOTE Standards and Interpretive Guideline (effective July 31, 2020) describes both fieldwork education and the doctoral capstone as being essential parts of student learning. And as such, each should be integrated as crucial components in a program’s curriculum design (ACOTE, 2018). Decisions made in the strategic plan related to whether a program uses simulation, standardized patients, faculty-led experiences, or non-OT supervisors in emerging practice areas to fulfill ACOTE (2018) Standard C.1.9 for Level I Fieldwork will depend on the curriculum design.

**Stage 2: Design**

The AFWC and the CC facilitation of student instruction and experiences correlates to constructivist learning theory. Both fieldwork and capstone experiences allow students to construct their learning in context with authentic tasks and experiences to expand their knowledge (Bada, 2015; Dewey, 1938; Piaget, 1971). The S.E.L.F. approach includes technical decisions about how the information will be formatted and how it will be made available to the intended audiences. Determining these design details will impact the amount of time required to produce a completed manual. Formatting includes decisions about document or page elements as well as judgments about publication and dissemination. When determining the order of content in the manual, programs should identify which information to share between fieldwork and capstone, for instance health clearances or specific university policies, and place this information first. This guide allows students to understand shared learning expectations, and the learning experiences are grounded in the whole curriculum rather than being seen as separate elements.

**Incorporating Systems Thinking**

The academic environment can influence decisions made in the design process. There may be boundaries around the type of formatting to use, which demonstrates influences from internal environments. When thinking about external factors, an OT program can determine if the fieldwork and capstone manual will become evidence for meeting specific ACOTE accreditation standards that may impact how, when, and to whom to disseminate the manual. Systems thinking provides a way to systematically assess and address these decisions (Maani & Maharaj, 2004). It helps give a big picture view on how to leverage the dissemination to meet external influences and demands.

**Stage 3: Develop**

Kolb (1984) identifies experiential learning theory as “the Process that links Education, Work, and Personal Development” (p. 4). The philosophy of fieldwork is the provision of opportunity for clinical application and for mastery experiences. The S.E.L.F. approach provides shared understanding of capacities and assists students in understanding appropriate ethical and legal behavior (i.e., HIPAA). Knowledge and competency expectations of the fieldwork and capstone experiences can be shared with students via the manual prior to the experiential learning to assist with the learning process. The fieldwork and capstone experiences are embedded in realistic professional and clinical learning contexts. The activities provide multiple modes of representation and self-reflection that are critical for student learning and preparation (Bada, 2015). Students and educators can share knowledge and collaborate before the fieldwork and capstone by outlining the timelines of experiences and expectations warranted.

A fieldwork and capstone manual can be both proactive and reactive by focusing on the prevention of unwanted or unprofessional behavior and on the consequences of improper conduct (Sorenson et al., 2011). Developing clear and concise policies can help save time in the future. Example
policies include dress code and conduct, attendance at fieldwork and capstone sites, and record-keeping for health records and clearances. Based on the American Occupational Therapy Association (AOTA) Advisory Opinion for the Ethics Commission, expectations regarding appropriate e-professionalism behavior of legal, ethical, and professional communications, including but not limited to email, the Internet, and social media, while on fieldwork and capstone experiences can prevent unintended consequences of improper use (AOTA, 2016b).

**Incorporating Systems Thinking**

Developing proactive and reactive policies may be reflective of both internal and external environments in systems thinking. An example of policy derived by an external environment may include community-based protocols and procedures derived from community partnerships established. Internal hierarchical influences could include school-wide requirements for health clearances of all health science students. Reflection of the external and internal environments ensures policies meet the needs of the students, institutions, and national accrediting bodies.

**Stage 4: Write**

The S.E.L.F. approach includes writing a manual that reflects the learning theories used in the experiential learning experiences. A draft of the manual can be shared with faculty in the OT department to ensure completeness. As architects of the learning experience, the AFWC and the CC can use a logic model to frame the writing of a fieldwork and capstone manual. A logic model is a visual representation of the intended program or project that denotes outcomes based on program resources, activities, and outputs (Newcomer et al., 2002). The logic model provides stakeholders information about the expected outcomes and performance of the program, which helps establish the program’s qualifications for addressing the identified problem or need (Newcomer et al., 2002). Specific goals of the program in relation to resources, activities, and intended outcomes are presented (Hayes et al., 2011).

Figure 4 presents a logic model for the development of a fieldwork and capstone manual. The identified purpose of the S.E.L.F. approach is to serve as a guide to prepare students for the expectations of fieldwork and capstone and to mitigate potential problems that could arise from the experiences. A logic model is built to examine the impact of the S.E.L.F. approach, initially, to explore the nature of the problem. The S.E.L.F. approach addresses problematic scenarios: (a) when students have a limited understanding of the expectations while on fieldwork and capstone placements and (b) when issues arise on fieldwork and capstone placements that require programmatic policies to resolve them. The theories used to frame the S.E.L.F. approach include adult learning theory, experiential learning theory, and Bloom’s Taxonomy. Students in an entry-level OT doctoral program are the intended audience to receive the manual developed with the S.E.L.F. approach. The programmatic resources required could include time invested by the AFWC and the CC when developing a manual framed by the S.E.L.F. approach, time invested by faculty when reviewing the manual, and time invested by the program collaborating with other university departments when developing policies to include in the manual.

The activities associated with the S.E.L.F. approach include manual development, the introduction of the manual and policies to students, and an annual review of the manual to ensure policies are up to date. External and environmental factors that can influence the potential problem, the inputs, and the activities include ACOTE standards, governmental laws and regulations, and fieldwork and capstone site expectations. A program output to track outcomes is the number of issues on fieldwork or capstone experiences that are either resolved or mitigated as a result of having the manual guide the experience. The short-term outcome ultimately is that students will demonstrate an increased
understanding of expectations on the fieldwork and capstone experiences. The intermediate result is that students will use the manual as the first line of defense if any issues or questions come up during the experiences. The long-term outcome is a decrease in the number of procedural issues arising on the fieldwork and capstone experiences.

**Figure 4**
*Logic Model for the Development of the Fieldwork and Capstone Manual*

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**Incorporating Systems Thinking**

Outcomes in the logic model should be reflective of internal and external demands. A feature present in a logic model that mirrors systems thinking is the external or environmental factors influence. Outcomes should reflect internal influences of the program, school, and university while also demonstrating the importance of external factors, including but not limited to ACOTE, AOTA, and governmental regulations.

**Stage 5: Evaluate**

The S.E.L.F. approach also addresses the process of evaluating the theories used as well as the manual, which includes the objective assessment from faculty members and students. A comparison of accurate terminology will ensure cognitive processing of knowledge using Bloom’s Taxonomy (Anderson et al., 2001). The logic model that examines short-term, intermediate, and long-term program goals validates outcomes. Faculty can be active contributors in the evaluation process regardless of their working knowledge of exact fieldwork and capstone policies. The manual can be divided among faculty members into sections for review to ensure congruence with curricular outcomes and overall clarity of the materials presented in the manual. Students may also be involved in the evaluation of the manual. This process may include providing a means for the students to confirm that they have read the manual followed by an opportunity for students to ask questions about the manual or any specific policies. One way to accomplish this is through a student acknowledgement page that students would sign indicating that they have read the manual and that the AFWC or the CC reviewed the document with them.
Students confirm they understand the policies outlined in the manual. Any questions students have ultimately can inform future revisions of the manual.

Bloom’s Taxonomy (Bloom et al., 1956) ensures the objectives and knowledge taxonomy provided match the curricular outcomes required for fieldwork and capstone experiences. At the point in a curriculum that a student is pursuing different levels of fieldwork, differences should be noted in the terminology choices to identify the knowledge obtained. Bloom’s Taxonomy (Bloom et al., 1956) classifies the levels of the cognitive process into six dimensions: (a) remembering, (b) understanding, (c) applying, (d) analyzing, (e) evaluating, and (f) creating (Anderson et al., 2001). For example, based on OT curriculum knowledge at the time a student may be on a Level I Fieldwork experience, students may only be at the knowledge level of understanding and demonstrating comprehension through explanations. While on Level II Fieldwork, a student should be at the point of analyzing, evaluating, determining structure, identifying purpose, and making judgements on criteria and standards. For a capstone experience, it is recommended to align higher levels of the cognitive process, including evaluating, creating, forming, and reorganizing new elements, structures, and patterns. During the faculty evaluation portion of the manual writing process, key objectives should be compared to Bloom’s Taxonomy using learning outcome verbs to ensure that students’ expectations and experiences are consistent with the level of knowledge outlined in the curriculum scaffolding (Anderson et al., 2001).

For the final evaluation of the S.E.L.F. approach, returning to the logic model identified in the writing process is essential to meet the proposed outcomes. Changes in the logic model because of differences in annual outcomes of the curriculum may need to be reflected in the manual and updated. Final evaluation changes should have an expected deadline to ensure the distribution is timely for the audience proposed.

**Incorporating Systems Thinking**

Review and critique of the experiential learning by other faculty members will offer novel insights for accuracy and curriculum needs. The AFWC and the CC maintain the integrity of the intended design from the impact of the internal and external environments. The AFWC and the CC must be the experts related to the requirements of the fieldwork and capstone experiences to ensure that fundamental structures of experiential learning maintain relevance with internal and external factors.

**Implications for Incorporating the S.E.L.F. Framework into Experiential Learning Outcomes in Occupational Therapy Education**

Establishing structure and grounded processes in fieldwork and capstone design is fundamental for OT education to meet ACOTE accreditation standards and organizational system policy. The S.E.L.F. approach allows AFWCs and CCs to clearly define and identify essential elements to incorporate into the learning experiences and the accompanying manual that will benefit the fieldwork and capstone processes. Developing a theory-driven manual that can address educational use, as well as real marketability, becomes an integral part of applying an evidence-informed approach to fieldwork and capstone. The use of the S.E.L.F. approach to ground the experiential learning in learning theory ensures that the fieldwork and capstone experiences have outcomes prioritizing student learning. The manual becomes a roadmap for experiential learning implementation by ensuring that the internal and external demands are identified prior to application and that learning strategies are advantageous to the level of the students’ knowledge. This particular niche of theory-driven manual development hits multiple categories in education research identified by Thomas et al. (2016), including instructional strategies, fieldwork models, fieldwork strategies, fieldwork evaluation, and classroom and fieldwork integration.
Limitations

The S.E.L.F. approach is limited to the specific needs of the audience and the institution. However, the process described can be used by any institution when structuring fieldwork and capstone experiences and when developing, writing, evaluating, or editing a fieldwork and capstone manual. Some OT programs may involve different educational priorities and the availability of fieldwork sites may pose challenges or opportunities for students. The S.E.L.F. approach is also constrained to a Western perspective with the application of U.S. ACOTE standards and would benefit from a cultural context when applied to international OT programs. Experiential learning theory, Bloom’s Taxonomy, andragogy, and constructivist learning theory are possible theoretical frameworks for structuring the fieldwork and capstone experiences, which in turn informs related policies and protocols. Academic institutions and programs may use other theoretical frameworks that would need consideration in the development and writing of the fieldwork and capstone manual.

Conclusion

There are currently limited resources in the OT literature related to the process of completing the administrative duties of the AFWC and the CC. By grounding the fieldwork and capstone experiences in learning theory frameworks and developing a tool to inform and instruct key stakeholders in the process, the AFWC and the CC act as architects to the experiential learning process. The use of Bloom’s Taxonomy, constructivist learning theory, experiential learning theory, and systems thinking can guide the AFWC and the CC to design programming specific to the learning needs of the students in addition to meeting the internal and external demands intrinsic to the fieldwork and capstone process. This exploratory process of connecting theoretical frameworks to the structured writing process will fill this gap and provide a practical, how-to resource for AFWCs and CCs.

Future Development

The S.E.L.F. approach provides the framework needed to move from “a generic pedagogy of fieldwork to profession-specific pedagogies of fieldwork” (Roberts et al., 2015, p. 115). Sloggett et al. (2003) acknowledged the benefits from fieldwork education sites, fieldwork educators, and specific practice areas contributing to the OT profession that extend beyond the student benefit. OT programs use diverse and inventive approaches to design fieldwork and capstone, which are detailed in scholarly work at a higher rate than in academia as a whole (Roberts et al., 2015). However, there are known discrepancies in the quality of practice-based experiences in fieldwork (Drynan et al., 2018). With the inclusion of systems theory, an OT program can personalize the S.E.L.F. approach and use it as a framework to guide the fieldwork and capstone experiences based on learning theories specific to their curriculum design and teaching philosophy. A program can conceptually show how a learning theory transfers, reformulates, and integrates into their fieldwork and capstone design. This rationalization allows the S.E.L.F. approach to generalize to the local level of individual programs and direct the design and application of the various teaching and learning methods used in fieldwork and capstone experiences.

As programs transition to advanced graduate degrees, further guidance in capstone development is necessary. Educator competency requires a command of systems, community knowledge, academic curriculum, and learning styles. As of September 2019, there were 202 OT programs at various stages of the accreditation process for the doctoral degree level (ACOTE, 2018). All of these programs will have to design, implement, and evaluate fieldwork and capstone in their curriculum. This demand will drive a growing need for scholarship that addresses the pedagogical aspects of these experiences. As Roberts et
al. (2015) identified, theories and approaches used in other fields, such as in education, will have to be adapted and tailored for the OT professional context. The S.E.L.F. approach integrates educational learning theories and offers a pedagogical framework for application to experiential learning in doctorate level education. Future research on the student experience, site experience, and program experience with the educational framework is warranted. Adaptable fieldwork and capstone expertise will promote guided discovery of student reflection, foster change-agent qualities, and produce innovation to optimize professional development in experiential learning.

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