



Volume 3 | INNOVATIONS IN
HIGHER EDUCATION
TEACHING
AND LEARNING

Inquiry-Based Learning for Multidisciplinary Programs

A Conceptual and Practical
Resource for Educators

EDITED BY **Patrick Blessinger** *and* **John M Carfora**

INNOVATIONS IN HIGHER EDUCATION TEACHING AND
LEARNING VOLUME 3

**INQUIRY-BASED LEARNING
FOR MULTIDISCIPLINARY
PROGRAMS: A CONCEPTUAL
AND PRACTICAL RESOURCE
FOR EDUCATORS**

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SERIES EDITOR'S INTRODUCTION

The purpose of this series is to publish current research and scholarship on innovative teaching and learning practices in higher education. The series is developed around the premise that teaching and learning is more effective when instructors and students are actively and meaningfully engaged in the teaching-learning process.

The main objectives of this series are to:

- (1) present how innovative teaching and learning practices are being used in higher education institutions around the world across a wide variety of disciplines and countries,
- (2) present the latest models, theories, concepts, paradigms, and frameworks that educators should consider when adopting, implementing, assessing, and evaluating innovative teaching and learning practices, and
- (3) consider the implications of theory and practice on policy, strategy, and leadership.

This series will appeal to anyone in higher education who is involved in the teaching and learning process from any discipline, institutional type, or nationality. The volumes in this series will focus on a variety of authentic case studies and other empirical research that illustrates how educators from around the world are using innovative approaches to create more effective and meaningful learning environments.

Innovation teaching and learning is any approach, strategy, method, practice, or means that has been shown to improve, enhance, or transform the teaching-learning environment. Innovation involves doing things differently or in a novel way in order to improve outcomes. In short, Innovation is positive change. With respect to teaching and learning, innovation is the implementation of new or improved educational practices that result in improved educational and learning outcomes. This innovation can be any positive change related to teaching, curriculum, assessment, technology, or other tools, programs, policies, or processes that leads to improved educational and learning outcomes. Innovation can occur in institutional

development, program development, professional development, or learning development.

The volumes in this series will not only highlight the benefits and theoretical frameworks of such innovations through authentic case studies and other empirical research but also look at the challenges and contexts associated with implementing and assessing innovative teaching and learning practices. The volumes represent all disciplines from a wide range of national, cultural, and organizational contexts. The volumes in this series will explore a wide variety of teaching and learning topics such as active learning, integrative learning, transformative learning, inquiry-based learning, problem-based learning, meaningful learning, blended learning, creative learning, experiential learning, lifelong and lifewide learning, global learning, learning assessment and analytics, student research, faculty and student learning communities, as well as other topics.

This series brings together distinguished scholars and educational practitioners from around the world to disseminate the latest knowledge on innovative teaching and learning scholarship and practices. The authors offer a range of disciplinary perspectives from different cultural contexts. This series provides a unique and valuable resource for instructors, administrators, and anyone interested in improving and transforming teaching and learning.

Patrick Blessinger
*Founder and Executive Director,
International HETL Association*

FOREWORD

It gives me great pleasure to write the Foreword for the third volume of *Inquiry-Based Learning*. As an educator, this topic has always been dear to my heart. It is a topic that is meaningful because this process of learning encourages higher level thinking processes for all learners at any level of study – thinking skills that are needed by all, for the 21st century. Inquiry is not a “method” of doing mathematics, science, literacy, or other subjects. Inquiry-based learning is an approach to tentatively explore, investigate, and discover answers to formulated questions. As Wells (1999) stated, equally important in an inquiry approach is that answers to questions are taken seriously and are investigated rigorously, as the circumstances permit.

In this volume, you will read about successful implementation of elements of inquiry that may be integrated in a variety of learning settings. I would suggest that as you read this volume you consider what inquiry should look like when the approach is used in your own educational setting.

As an educator, professor, teacher, and consultant, I continue to provide professional development for teachers and administrators that integrate the following inquiry components: (1) tap into the learners’ prior knowledge, (2) integrate collaborative work and hands-on experiences using materials, (3) follow the problem-solving process and strategies, (4) accept multiple solutions to problems, (5) encourage high-level thinking through open-ended situations, (6) create conversations around solving problems, and (7) reflect on ideas both in discussion and in writing (Cozza & Bonekemper, 2007). Unfortunately, I have found that an inquiry lesson is often falsely represented with teachers only focusing on asking students to perform hands-on tasks. I have also witnessed that inquiry is not usually an agenda to be integrated into an administrator’s vision action plan. What the reader should realize is that inquiry is not an all or nothing process. Like most instructional practices, it manifests itself along a continuum that shifts according to time, place, and circumstance (Audet, 2005) based on the influence of lesson topic and task, learning environment, and a student’s experiences.

Some factors to consider in an inquiry model are the following: the level of inquiry is based on the relative amounts of student versus teacher control

over an activity, and that the inquiry process skills are developmental in nature. Based on my experiences, choosing the inquiry model in a lesson should be influenced by the topic of study, age level of the learner, amount of experience of the learner, and the nature of the task. It is important to note that merging inquiry into programs should be a gradual process over-time. Teachers and students need to gain an understanding of just what inquiry looks like during a slow release of control over classroom events.

An important framework to consider for a continuum of inquiry learning from grades pk-16 includes the following elements: students at all levels should progress through a cycle from questioning and hypothesizing to data collection, analysis, application, synthesis, and evaluation. How do teachers sequence instruction when using the framework? Although teachers' approaches vary, a three series sequence of student performance occurs: messing around with materials, guided inquiry (Ritchart, Stone Wiske, Buchovecky, & Hetland, 1998), problem solving, and metacognitive applications (Cozza & Oreshkina, 2013). Teachers build on students' prior experiences with initial explorations of central questions, materials, and issues about a topic. For example, in a science electricity class, third graders brainstorm and hypothesize just how lights turn on and off considering materials such as a light bulb, electrical wire, and a battery. During guided inquiry, small collaborative groups solve problem and use the materials to test how a bulb lights. Students record through drawings which diagram lights a bulb and which does not. The students explore, investigate, question, synthesize ideas and draw conclusions. As a culminating task, students become metacognitive and reflect on the investigation to understand just how they met the lesson goals. The inquiry process moves the learners' performances from simple to complex thinking tasks, from structured to more open-ended activities, and from collaborative to more independent evaluations. This is the inquiry process that should be included in school vision plans, integrated into professional development programs for educators, and connected to all pk-16 classrooms.

Inquiry is the practice of extracting meaning from experience (Audet, 2005) and it is a habit that integrates naturally in the teaching and learning processes. High-level thinking skills (skills required for the 21st century) are interwoven through all inquiry endeavors. What I suggest is that readers of this volume consider the concepts presented and reflect on how such factors might influence and become meaningful for your own performance as a professional.

Barbara Cozza

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PART I
CONCEPTS AND PRINCIPLES

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INNOVATIVE APPROACHES IN TEACHING AND LEARNING: AN INTRODUCTION TO INQUIRY-BASED LEARNING FOR MULTIDISCIPLINARY PROGRAMS

Patrick Blessinger and John M. Carfora

ABSTRACT

This chapter provides an introduction to how the inquiry-based learning (IBL) approach is being used by colleges and universities around the world to strengthen the interconnections between teaching, learning, and research within the multidisciplinary programs. This chapter provides a synthesis and analysis of all the chapters in the volume, which present a range of perspectives, case studies, and empirical research on how IBL is being used across a range of courses across a range of institutions within multidisciplinary programs. The chapter argues that the IBL approach has great potential to enhance and transform teaching and learning. Given the growing demands placed on education to meet a diverse range of complex political, economic, and social problems and personal needs, this chapter argues that education should be a place where students learn

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“how-to-learn” – where increasingly higher levels of self-directed learning is fostered – and where students grow in the three key areas of learning: cognitively, emotionally, and socially. To that end, this chapter argues that IBL, if designed and implemented properly, can be an important approach to enhancing and transforming teaching and learning.

INTRODUCTION

The chapters in this book focus on how the inquiry-based learning (IBL) approach is being used in a variety of educational settings to enhance teaching and learning within multidisciplinary programs as a means to enhance and transform student experiences. Using case studies and other empirical research, this volume presents a broad and in-depth overview on a variety of IBL applications to help educators implement IBL in a variety of ways in their own courses. The chapters in this volume cover the main theories, models, and principles of IBL, as well as successful strategies and practices of real IBL implementations in multidisciplinary settings. Since the main purpose of human activity is to organize information from their experiences and then to make meaning from that information. Questions then naturally arise from this meaning-making process leading the person to investigate and inquire in order to try to answer those questions (Doherty, Riordan, & Roth, 2002). IBL, with its focus on the inquiry process is naturally suited to the human learning process. Therefore, the IBL has great potential to increase academic engagement, intrinsic motivation, and self-regulated learning (Blessinger & Carfora, 2014; Carfora, 2011; Lee, 2013).

The chapters in this volume provide a wide-ranging overview of recent developments in IBL theories and pedagogical practices, including new and established literature on IBL (Barrow, 2006; Bell, Urhahne, Schanze, & Ploetzner, 2010; Blessinger & Carfora, 2014; Bruner, 1961; Dewey, 1997; Eslinger, White, & Frederiksen, 2008; Garrison, Anderson, & Archer, 2000; Kovbasyuk & Blessinger, 2013; Lee, Greene, Odom, Schechter, & Slatta, 2004; Levy, Thomas, Dargo, & Rex, 2013; Spronken-Smith, 2012; Vygotsky, 1962).

An increasing number of interdisciplinary and multidisciplinary programs (to include professional programs like law, medicine, and business which tend to be interdisciplinary and multidisciplinary by their nature) have been developed in higher education in recent times. This trend toward

interdisciplinary and multidisciplinary programs (and even transdisciplinary programs) appears to be growing as educators seek new knowledge that lies at the intersections of traditional disciplinary boundaries. The IBL theories, models, and concepts covered in this volume, coupled concrete examples via case studies of authentic learning exemplars, can help educators interested in adopting the IBL approach in a wide variety of contexts.

In the twenty-first century, characterized by increasing globalization, internationalization of education, educational mobility, and increasing diversity of learning opportunities for students, educators are challenged to work within with the new realities of modern life and within the multi-purpose role of the education (i.e., political, economic, social, and personal). Thus, educators today must serve multiple constituencies and purposes and learn how to adapt to the contemporary educational environment. The case studies and exemplars presented in this volume illustrate how IBL is being used in a variety of ways and they demonstrate innovative approaches for constructing more engaging, and authentic means to engage students in more effective learning.

In response to [Kirschner, Sweller, and Clark \(2006\)](#), [Hmelo-Silver, Duncan, and Chinn \(2007\)](#) offer considerable evidence and convincing logic to demonstrate that IBL can be an effective approach to teaching and learning if it is designed appropriately relative to the teaching and learning context in which it is used. The authors conclude that "... there is growing evidence from large-scale experimental and quasi-experimental studies demonstrating that inquiry-based instruction results in significant learning gains in comparison to traditional instruction and that disadvantaged students benefit most from inquiry-based instructional approaches" (p. 104). The IBL approach emphasizes that learning should be both about the epistemic knowledge and the epistemic practices of the domain(s) being studied in order to better prepare students in more authentic, meaningful, and self-directed ways ([Bereiter & Scardamalia, 2006](#); [Bransford, Brown, & Cocking, 2000](#); [Kovbasyuk & Blessinger, 2013](#); [Sandoval & Reiser, 2004](#)).

IBL, as an approach instead of a specific method, is a cluster of teaching and learning strategies where students inquire into the nature of a problem(s) or question(s). The problem or question scenario thus serves as a mechanism and catalyst to engage actively and deeply in the learning process. This approach is constructivist in nature because it allows the student to take greater ownership of her/his learning by allowing them a means by which to construct their own knowledge rather than just having that knowledge merely spoon-fed to them by others. Thus, a chief aim of IBL is to

empower both teachers and students. Students are empowered by requiring them to take increasing of their own learning through purposeful engagement with specific questions, problems, and related learning activities. Instructors are empowered because they learn to progress from isolated subject matter experts to learning architects and instructional leaders. A key responsible of instructors therefore, in this active learning environment, is to design a learning environment that is challenging, supportive, and emphasizes both epistemic knowledge and skills as well as social and emotional development. In IBL, one goal is to move the learner from a passive state to become a more active participant in the learning process.

In IBL teaching and learning, both roles are more effectively expanded and defined, and more focused on achieving higher-order learning outcomes. Also important is the quality of the ongoing interaction and relationship between instructors and students, and between learners themselves. The flexibility of IBL allows it to be applied to any discipline at any level within any institutional type. How it is implemented is a function of several variables (e.g., institutional mission/type/level, discipline, grade level, learning outcomes). Teaching and learning strategies vary depending on the context of the teaching and learning environment. It is the instructor, as the learning architect and instructional leader, to decide how to design the course to best meet the needs of the students and the learning outcomes sought. So, for instance, the instructor may use a variety of learning tasks and activities to achieve the desired learning outcomes (Blessinger & Carfora, 2014).

Moving from traditional teaching and learning roles (e.g., the instructor and textbook as the sole or even primary repositories of knowledge, the lecture as the sole or primary instructional method, and the student as passive receptacle of information) to inquiry-based teaching and learning roles can be a huge transition, because along with taking on new roles comes development of a new mindset about the purpose and nature of teaching and learning. This implies that adopting an IBL approach is not simply redesigning the structure of the course, but it is also about adopting a different mindset and attitude about the roles of the instructor and learner. The IBL approach is supported by a large body of research evidence and established learning theories, which informs (without being prescriptive) faculty and administrators about what factors are most appropriate in creating more effective learning environments (Blessinger & Carfora, 2014; Gredler, 2009; Kovbasyuk & Blessinger, 2013).

As the case studies in this volume illustrate, courses and programs must be designed purposely and rooted in relevant learning theories and in

evidence-based practices and properly aligned with appropriate learning outcomes. Some of the more common IBL learning activities include case analysis or case creation, research projects, field work investigations, laboratory experiments, and role-play scenarios. The commonality of these activities is that they are active, authentic, experiential, meaningful, and they are focused on higher-order thinking. The level of structure required (e.g., on the continuum of unstructured to highly structured) will influence how much instructor guidance and direct instruction is required. In addition, learning projects may be small or large, or may cover whole projects or just particular components of a large project. IBL activities usually involve collaboration (directly or indirectly) with others such as fellow students, librarians, and/or researchers or others who have specialized knowledge or skills that the student needs in order to address the problem(s) or question(s) under investigation. Thus, the degree of guidance needed depends on the nature of the course and the needs of the students. In IBL, there is no “one size fits all” solution and no one prescriptive recipe for academic success.

Another key aspect of IBL is its ongoing self-assessment and peer-assessment, which serves two basic purposes: (1) critical self-reflection is important for fostering a deeper understanding of themselves as learners and a deeper understanding of the learning process – learning how to learn, (2) competence evaluation is important to assess the quality and level of knowledge and skills acquired and produced. Thus, IBL supports the integration of instructional practices and learning activities, resources, and assessments used in the teaching and learning process. Thus, for the instructor, in her/his roles as learning architect and instructional leader, one of the main challenges is to create the right conditions that are necessary to cultivate an IBL environment. This implies that the instructor (and students) must adopt values and attitudes and a mindset that helps foster such an environment, such as belief in diversity, inclusivity, student empowerment, self-regulated learning, meaning-centered learning, and an ethic of care for students. Thus, the instructor must believe that IBL can be an effective approach and trust that students have the ability become more self-directed and self-regulated learners. This implies that students (and instructors) should have a significant degree of control over what they do, how they behave, and how much they learn (i.e., educational and personal agency) (Kovbasyuk & Blessinger, 2013).

Key to adopting an IBL learning environment is creating a learning environment where students are encouraged to develop meaningful questions and authentic empirical investigations, which requires them to

determine the resources and activities needed to help address those questions and problems. In this learning process, students are better able to learn how to take increasing levels of responsibility for their knowledge and skill development. In this learning process, they are better able to work at higher-order thinking levels as identified in *Bloom's Taxonomy of Learning Objectives*, and in working on these levels, they are better able to use logic, reasoning, and argumentation as well as creativity and judgment.

Creating a learning environment where all these elements come together in just the right way is no small matter. IBL holds great promise in cultivating more effective teaching and learning environments, but IBL also presents new challenges for both instructors and learners, especially if they are entrenched in more traditional passive forms of learning. Challenges are to be expected when moving from one paradigm to another (e.g., from traditional teaching-learning where the instructor spoon feeds information to students via a steady diet of lectures, to IBL where students gradually become more self-regulated learners by learning to feed themselves by learning “how to learn” and by learning how to build their own knowledge and skill base). In the process of learning to take more responsibility for their own learning by engaging in a process of inquiry, creative learning (the essence of higher order thinking) is more likely to be cultivated because students are provided with the opportunity (and responsibility) to answer questions and solve problems themselves or in collaboration with their fellow learners. The editors contend that the process of inquiry is a natural learning process that aligns well with human cognitive development.

The IBL classroom (whether the delivery mode is face-to-face, online, or hybrid) tends to be more complex than a traditional lecture-based classroom because of the additional roles the instructor plays and because students take increasing and more direct responsibility for constructing their own knowledge and skill base. IBL can be adapted to any course at any level because it is a general strategic approach to learning and it is not prescriptive. IBL operates along a continuum and thus provides a great deal of flexibility. As discussed earlier, IBL requires adopting new roles and new beliefs and attitudes about the nature of teaching and learning. This, in turn, requires purposeful course design and planning and a lot of commitment to move past the growing pains of implementing a new approach and to get past the organizational cultural inertia that often resists change. However, as the chapters in this volume indicate, over the long-term, the benefits of IBL should prove worth the effort.

ADOPTION PRINCIPLES

Two key principles emerge from the findings of the chapters in this volume that help frame how IBL is being used within multidisciplinary programs:

1. IBL enhances student learning by creating more engaging and meaningful educational environments through a variety of learning activities (e.g., fieldwork, research projects, case studies, laboratory experiments, essays). IBL is better aligned with a learner's natural inclination for investigation, creativity, and experiential learning by allowing students the opportunity (and responsibility) to address problems and questions, investigate the answer(s) to those questions through their own research investigation and collaboration with others, connecting and integrating their findings with their accumulated knowledge base, and sharing and explaining their findings by presenting it to their peers.
2. IBL enhances instructor teaching by expanding their role from isolated subject matter specialists to collaborative instructional leaders who are not just responsible for disseminating information, but also responsible for designing effective learning environments and cultivating the development of the whole student (e.g., cognitively, psychologically, socially). The instructor is crucial to the effectiveness of IBL settings because she/he serves as the chief learning architect for the course and the chief instructional leader who guides and mentors students through the complex learning process. The interpersonal relationship between instructor and students is very important since learning is not just a cognitive activity but also a psychological and social one.

These principles are reflective of a growing recognition that education should not be solely focused on cognitive learning (i.e., developing a knowledge and skill base), however important that may be, but also about psychological and social development. Part of the latter developmental areas include values clarification, attitudes and beliefs, and a mindset that is most conducive to learning and functioning effectively in the many roles that people must assume throughout their lives (e.g., citizen, worker, family member, community member). These principles also reflect the notion that learning should not be an onerous process (for either learners or instructors), but rather it should be done in an environment that is humane, and one that allows for meaningful participation through authentic teaching and learning activities that engage with one's interests and values. These IBL principles are consistent with modern learning theories about how

humans learn in a meaningful way and how people make sense of their environment (Kovbasyuk & Blessinger, 2013).

IBL is flexible and adaptable to a wide variety of educational settings because the instructor can design different types of IBL environments (e.g., confirmation, structured, guided, open; Banchi & Bell, 2008) along an IBL continuum that best fits the learning context and situation (e.g., grade level, course topic, needs of students). Contextualized learning occurs through making meaningful connections and through situated interactions. Situated learning occurs within a specific social and personal context. Authentic learning involves aligning learning objectives with learning activities that are personally meaningful to the student. Each instructor must determine how best to implement IBL in her/his classroom, and the examples in this volume provide great insight in how the instructor can do that. Thus, the flexibility of IBL allows it to be contextualized to a variety of learning situations and modes of inquiry and allows it to be applied to any course in any discipline at any level (Blessinger & Carfora, 2014).

IMPLEMENTATION BENEFITS

The current body of research strongly suggests that IBL can be an effective teaching and learning strategy and can produce positive learning effects if designed and implemented properly with regard to context and creating the proper linkages between teaching, content, learning, and assessment (Cuneo et al., 2001; Cuneo, Harnish, Roy, & Vajoczki, 2012; Hickey, Wolfe, & Kindfield, 2000; Justice et al., 2007; Lynch, Kuipers, Pyke, & Szesze, 2005; Vajoczki, Watt, Vine, & Xueqing, 2011). Since IBL is centered on authentic and meaningful problem scenarios and question-based investigations, it more naturally aligns with a student's own value system (axiological dimension), one's own life and career aspirations (ontological dimension), learning/knowledge needs (epistemological dimension). IBL helps to expand the boundaries of teaching and learning by allowing students greater active participation in their own learning process by requiring students to take increasing ownership of their own learning. Thus, IBL is inherently more active, participatory, and authentic than traditional modes of teaching and learning and thus better suited to engaging and retaining students.

IBL is oriented around inquiry and higher-order thinking and it therefore naturally starts with the creation of relevant questions or problem

scenarios (relative to the scope and nature of the course and the learning objectives and outcomes sought). This type of learning stands in sharp contrast to simply learning established facts by having that information fed to students through more passive, indirect means (e.g., lecture or textbooks) of learning. Although lectures and textbooks can be very useful ways to transmit information, learning should not be confined simply to those two means. Furthermore, building a broad and in-depth knowledge base is critically important (as illustrated in Bloom's Taxonomy), but this base is just the first step or level in the learning process. Learning should be designed in such a way that students do not get stuck at level one (i.e., learning established knowledge) of Bloom's Taxonomy. Courses must be designed in such a way that students are focused on higher-order learning. These higher-order levels of learning cannot be acquired solely by passive, indirect means of learning. Developing higher-order thinking skills requires more active, direct means of learning, such as research projects, peer collaboration, and role-play. Thus, in addition to the cognitive benefits, IBL is a more holistic learning strategy for developing important psychological, social, and behavioral qualities and skills necessary for higher-order thinking and lifelong and life-wide learning.

As the chapters in this volume illustrate, IBL is a strategic approach for improving teaching and learning and providing educators with more opportunities to transform how students interact with the instructor, how they interact with other students, and how they interact with the course content. IBL helps expand our notions about what it means to teach and learn in contemporary society. IBL promotes interdisciplinary learning and it fosters learning from multiple perspectives. IBL promotes the development of transferable learning skills because it focuses on authentic and meaningful and experiential learning activities.

Authentic and experiential learning is also important for the development of practical life skills, emotional and social development, personal and group value clarification, as well as developing more complex meaning-making capabilities. Mezirow (1991) states that, "Making meaning is central to what learning is all about" (p. 11). Kovbasyuk and Blessinger (2013) note that meaning-making is central to all learning. They note that open meaning-making educational processes and practices are best suited to develop more self-regulated learners and where learning continues long after they graduate. Therefore, education (i.e., formal learning) is not just about the acquisition of knowledge but also about enabling students to engage in lifelong learning. In doing this, educators can help foster learning environments where questioning and problem investigations become a

natural part of one's learning process and where meaning making is at the core of the learning process.

THEORETICAL FRAMING

IBL, regardless of the setting, is centered on a problem (or set of problems) or question (or set of questions) that needs to be addressed. The Galileo Educational Network (2013) defines IBL as the “study into a worthy question, issue, problem or idea. It is the authentic, real work that that someone in the community might tackle. It is the type of work that those working in the disciplines actually undertake to create or build knowledge” (n.p.). Contemporary IBL approaches understand the need to explicitly link inquiry-based teaching practices and content with IBL activities and course learning outcomes with inquiry-based assessment.

The inquiry approach to learning can be traced back to Socrates, though modern theoretical foundations have their roots in the works of Piaget, Dewey, Vygotsky, and others. The theoretical foundations, in turn, also have roots in an educational philosophy known as constructivism. Although there are several branches of constructivism, the essential components that they share is that learning is and should be active, situated, and social. In this view, learning (and the knowledge constructed from the learning process) is most effective when it is based on meaningful learning activities. This implies that learning activities should be authentic and experiential (Biggs, 1996; Dewey, 1997; Levy, Lameris, McKinney, & Ford, 2011). Kovbasyuk and Blessinger (2013) provide an overview of the main learning theories and educational philosophies such as constructivism.

Lave and Wenger (1991) expand on the concept of knowledge construction with their theory on situated cognition and learning as participation in a community of practice. Kovbasyuk and Blessinger (2013) extended these ideas further with their theory on meaning-centered education and meaning-centered learning, which focuses on learning as self-motivating and self-regulating personality and cognitive development through open meaning-making processes. Both theories place emphasis on the inter-subjective, experiential, and dialogical nature of meaning-making in knowledge construction. Thus, in the broadest sense of the concept, IBL can be viewed as a set of learning and assessment strategies and standards where learning is grounded in the inquiry process. Thus, higher-order learning is

fostered through meaningful active engagement with relevant and authentic questions and problems (Levy et al., 2011; Shuell, 1996).

Appropriate instructional leadership is very important as it allows the instructor to not only serve as a subject matter expert, but also a mentor and guide who provides a socially and emotionally supportive learning environment. Thus, an important ingredient in IBL is the caring support from instructors and the development of appropriate values, attitudes, and habits that encourage learner empowerment, self-initiative, and higher-order thinking. In this type of environment, the instructor serves as the chief learning architect for her/his course to help ensure teaching and learning is done purposefully and meaningfully (Kovbasyuk & Blessinger, 2013).

IBL is applicable and relevant across all disciplines and levels within education and in both formal and informal learning situations. IBL provides a common theoretical framework upon which to design more effective and meaningful learning environments without the need to create a rigid system of standardization and conformity across educational disciplines and levels. The key to effective design is in the contextualization of IBL to the specific level, discipline, course, learning objectives, etc. At the heart of IBL is an inquiry learning process where all learning activities and assessments are purposefully designed to cultivate higher-order thinking through scaffolding of knowledge creation and exploration of authentic and meaningful questions and problems.

For instance, depending upon the context, learning activities may include answering a research question(s) or solving a problem (e.g., structured or unstructured) via fieldwork or analyzing real-world case scenarios. Learning activities may be in the form of a project which may be short cycle or long cycle or somewhere in between. Depending upon the complexity and level of the course, students may require significant guidance and explicit instruction. Nonetheless, with the IBL approach, all students are expected to take increasing degrees of ownership of their own learning as they progress through the grade levels and as they build their knowledge base and as they continually work toward higher levels of higher-order learning. They are also expected to work collaboratively with their instructors and peers, as needed, as well as others (e.g., librarians, specialists). As part of their interaction and collaboration with others, students are more naturally inclined to engage in critical self-reflection and are more inclined to share the results of their learning with those audiences.

With these IBL concepts in mind and based upon the case studies and exemplars presented in this volume, IBL can be considered a

learner-centered and active learning environment where deep, sustainable learning is cultivated by a process of inquiry owned by the learner. Thus, IBL can be said to be oriented around at least three main components:

- (1) exploration and investigation (e.g., problem-based learning (PBL), collaborative learning, self-directed learning, meaningful learning),
- (2) authentic inquiries using contextualized and situated learning (e.g., field learning, service learning, case-based learning), and
- (3) research-based approach (e.g., research-based learning, project-based learning, scaffolded learning).

As such, IBL naturally supports different modes of inquiry where the questions to be answered or the problems to be solved are grounded in the relevant epistemological basis (i.e., the type and level of course and discipline and mode of inquiry) since each discipline has evolved within its own particular epistemological framework. In this view, IBL typically begins with an authentic and contextualized problem scenario where learners (with guidance from instructors and peers) identify their own issues and questions (i.e., that are meaningful to them) and where the instructor serves as guide and facilitator in the learning process. IBL encourages more self-regulated learners because the primary responsibility is on the learners to determine the issues and research questions and the resources they need to address the questions. In this way, learning occurs more naturally across all learning domains (affective, cognitive, and social) because different types of knowledge are acquired through a diversity of learning activities and by active participation and experience with complex, real-life problems. In other words, formal learning is not disconnected from informal learning or separated from one's larger lifeworld.

CHAPTER OVERVIEWS

In "The Problem-oriented Project Work (PPL) Alternative in Self-directed Higher Education" by Anders Siig Andersen and Simon B. Heilesen, the authors investigate how Roskilde University in Denmark has adopted an educational approach known as the Roskilde Model, an approach characterized by (1) a special type of self-directed learning, named "problem-oriented project learning" (PPL); (2) a way of organizing undergraduate education into broad interdisciplinary programs; and (3) an interdisciplinary profile where double-major graduate programs allow students to design

their own academic and professional profiles. The chapter outlines the challenges that current educational policy poses to practicing an educational alternative.

In “Critically Examining Inquiry-Based Learning: John Dewey in Theory, History, and Practice” by William E. Herman and Michele R. Pinard, the authors discuss the history and development of IBL and describes how teaching and learning strategies over several decades in P-12 and higher education have built upon the ideas of John Dewey. Though personal reflection, uncertain learning paths and outcomes, and mindful inquiry have been central foundations undergirding IBL, the approach now stands upon the shoulders of theoretical and research giants such as Piaget, Vygotsky, and Bruner.

In “Folkography: Inquiry-based Learning and Qualitative Research” by David M. Lucas and Charles W. Jarrett, the authors introduce an innovative and practical approach for conducting, directing, and teaching qualitative research through IBL at the undergraduate level. Folkography is a qualitative research methodology that allows the undergraduate to successfully learn the academic concepts and guidelines required for participating in field investigations. This methodology relies heavily on the investigative techniques associated with ethnography, phenomenology, and sociology. Folkography is presented in this chapter as parallel actions; first, as a method of teaching undergraduates research; and, second as a system of data collection specific to qualitative investigations.

In “Resonance-based Inquiry: An Epistemological Approach to Indian Studies” by Nicholas J. Shudak, the author describes the conceptual underpinnings and practices of an interdisciplinary “Indian Studies” course taught through a unique inquiry-based epistemological approach referred to as resonances. In providing a resource and model for others who teach sensitive and even controversial topics that include the study of other groups of people, this chapter progresses in four stages discussed by the author.

In “Developing an Interdisciplinary Inquiry Course on Global Justice: An Inquiry-Informed, Cross-Campus, Collaborative Approach” by Beth Marquis and Vivian Tam, the authors discuss why higher-education institutions have an increasing responsibility to foster “global citizenship,” enabling students to recognize injustice and pursue equity. As a first step to creating a larger “hub” for global justice, McMaster University set out to develop an interdisciplinary course on the topic. This course was intended to bring together students and faculty from across campus, as well as alumni and community partners, in order to develop students’ abilities to recognize,

question, and contribute to addressing inequities and injustices on a global scale. This chapter describes the process used to develop this new course.

In “Inquiry-Based Learning as Foundational Pedagogical Tool for Critical Examination of Social Justice in Theory and Action” by Alia Sheety and Nicholas Rademacher, the authors describe two faculty members’ and six undergraduate students’ unique journey in implementing IBL through the field of social justice theory and practice. The two faculty members, from different departments, Education and Religion Studies, collaborated to structure and co-teach a social justice course using IBL pedagogical strategies. The chapter shares the IBL implementation and discusses advantages, such as, students’ engagement and the development of critical thinking and limitations, such as, time constraints and students with different background knowledge.

In “Inquiry-Based Learning as a Gateway for Exploration into Human Environmental Conflicts” by Becky Boesch, the author discusses how integrated learning is helping students develop the ability to make connections and see relationships between subjects, themselves, and the world around them. The author designed a term-long project for university freshman at the end of a year-long (3 terms) Freshman Inquiry class. This project which is largely student driven allows students to explore areas of interdisciplinary interest in a variety of ways. Such variety allows for learning to occur both affectively, cognitively, and socially. This multifaceted project challenges students to make connections between themselves and the seemingly disparate fields of science and social science on a local, national, and international level and ultimately allows them “ownership” of their learning.

In “Developing Digital Student Selves: Using an Inquiry-Based Approach to Explore Digital Confidence in Creative Learning” by Vic Boyd, the author reflects on the outcomes of the Digital Student Selves project at a small, specialist arts institution in the UK. The project aimed to promote increased student understanding of the research process as well as increased reflexivity by engaging students in an inquiry-based approach to unpacking experiences and perspectives of the role of technology in learning. Discussion within this chapter outlines strategies that students employed in adopting blended approaches to learning and also presents key aspects of students’ negotiation of digital selfhood.

In “A Master’s Level Research Methods Class: A Practice Example of Inquiry-Based Learning” by Kathleen B. Duncan and Teresa Martinelli-Lee, the authors examine a graduate-level research methods course that was designed to be student-centered and inquiry-based utilizing scaffolding assignments, small group discussions, peer feedback, and collaborative

interactive exercises. Having students ask the questions in which they are interested, find the resources to answer those questions, which then leads to new questions, eventually culminates in the creation of a literature review and research proposal. Many of the specific in-class practices that support this inquiry-based approach are presented.

In “Design Thinking: A Problem Solving Technique for Education” by Gavin Melles, Neil Anderson, Tom Barrett, and Scott Thompson-Whiteside, the authors compare design thinking to PBL and enquiry-based learning (EBL) approaches to problem solving in education before focusing on the approach itself and current debates about its meaning and significance. This chapter focuses particular attention on the problem finding aspect of design thinking and its integration of creative methods for solving a range of tame to wicked problems (Rittel & Weber, 1973) in a variety of spaces.

In “Connecting Inquiry-Based Learning with Collaborative Work in Online Education” by Albert Sangrà, Mercedes González-Sanmamed, and Montse Guitert, the authors aim to show how the IBL approach can be successfully used in online education. The authors present the experience of the Digital Competence Program at the Universitat Oberta de Catalunya, which is designed considering the principles of collaborative work, implemented with a wide range of educational resources taking advantage of ICT benefits, is delivered online, and is finally evaluated from opinions voiced by students. Assessment is based on continuous evaluation activities, designed as authentic experiences to ease the building of mental structures.

In “Using Inquiry-Based Learning Outside of The Classroom: How Opportunities For Effective Practice Can Animate Course-Based Learning” by Michelle Bata and Amy Whitney, the authors explore how Clark University’s recent educational innovations in liberal education and effective practice (LEEP) have led to a cultural shift in how “real-world,” “off-campus,” and “hands-on” experiences are viewed on campus. Instead of supplementing academic coursework, IBL opportunities that take place outside the classroom are being embraced as a fundamental mode of learning that animates what goes on inside the classroom. The goal is to engage students throughout their academic career by challenging them to take responsibility for connecting their learning through exploration, inquiry, and by defining solutions to real-world issues.

In “Chaos and Order: Scaffolding Students’ Exploration during Inquiry-Based Learning” by Debra L. Gilchrist and April D. Cunningham, the authors describe the benefits for learners when librarians collaborate with discipline faculty to design IBL experiences. The authors purport that the research strategies and information literacy that form the basis of student

inquiry are as critical to student learning and success as discipline-specific course outcomes. Practical examples illustrate how faculty might embed information literacy into inquiry-based courses to scaffold, challenge, and support inquiry.

In “The Life Arts Project: Application of an Inquiry Based Learning Model for Adult Learners” by Darryl E. Jones, the author describes the adult-centered program delivered by The College of New Rochelle, School of New Resources; a northeastern, liberal arts institution that is a pioneer in educating adult learners. A model program for educating today’s adult learner is introduced with particular emphasis on faculty implementation of IBL in the classroom and student’s responses to the Life Arts Project (LAP) which is incorporated in each six credit course seminar. Through the LAP, adult learners investigate course content through exploration and discovery, participate in critical inquiry, investigate various research methodologies, and experience project-based learning.

In “Reconfiguring Affective, Conative and Cognitive Outcomes in IBL: A Multi-Disciplinary Case Study” by Mary Dickinson and David Dickinson, the author discuss an IBL case study that was designed in 2012/2013 for the highest achieving undergraduate students at our research-intensive UK University. The University has ~15,000 students and advertises an average UCAS entry tariff of over 320 (US equivalent: minimum of 3 AP’s at 4 or above, SAT 2030+). In 2005 the University received National funding from the UK Higher-Education Academy (HEA) to develop an innovative model of IBL to be used in a multidisciplinary context. Historically, IBL practice at our university had catered well for cognitive and affective learning, but had not been focused to develop conation. The authors therefore purposefully designed a conative-heavy element into our IBL intervention.

In “Enhancing Inquiry-Based Online Teaching and Learning: Integrating Interactive Technology Tools to Scaffold Inquiry-Based Learning” by Kathy-ann Daniel-Gittens and Tina Calandrino, the authors provide practical guidelines to higher-education faculty and faculty developers for implementing inquiry-based teaching models online. Although this chapter identifies three types of inquiry-based instructional models, it focuses on open inquiry and more specifically guided inquiry models. The chapter examines why IBL is particularly relevant to higher-education learning, how these models are implemented in higher-education settings and the constraints they face. The chapter will also explore how IBL can be authentically replicated in online learning environments.

In “Multidisciplinary Online Inquiry-based Coursework: A Practical ‘first steps’ Guide” by Tanya D. Whitehead, the author discusses how

students learn not only to produce an independent project with personal meaning, but also to think critically, to first identify and then engage with a topic in a way that brings lasting skill in personal inquiry to their lives. The inquiry-based method of leading students through several group projects conducted in synch with the thematic seminar and their independent reading, demonstrates that students enjoy the process of growing intellectually through stimulating discussions with peers, and then are well able to generalize the process and produce independent papers. The chapter discusses how students advance from a structured learning environment into field study on a topic of personal meaning.

In “Inquiry in the Coaching Experience: Reflective Strategies for Transformative Change” by Greg Latemore, the author describes the coaching relationship as a vehicle for personal learning. The chapter focuses on workplace coaching, one of the deepest forms of communication where true understanding is formed between two people in rich dialog.

The author distinguishes mentoring, coaching, counseling, and sponsoring, and then highlights two domains of personal learning: the “inner theater,” which includes multi-source feedback, and the “outer theater,” which includes action-learning projects. The author concludes the chapter by providing some cautions for the professional coach and insisting that coaching needs to be deeply respectful.

In “Classroom Without Walls: Inquiry-based Pedagogies and Intercultural Competence Development Via Service-learning” by Christine E. Poteau, the author explores how the expanding global economy necessitates innovative curricula that incorporate development of intercultural competence via language and cultural awareness. No matter the discipline, learners must be equipped with the necessary language and cultural knowledge to adapt to changing social conditions within communities and professional contexts. This chapter provides an overview of higher-education classrooms that include various forms of IBL, such as cooperative learning strategies that allow students to support one another and build new knowledge as a team.

CONCLUSION

In this volume, we have presented a range of perspectives, case studies, and empirical research on how IBL is being used across a range of course within the multidisciplinary programs. These findings, together with current research on IBL reviewed in the chapters, suggest that the IBL approach

has great potential to enhance and transform teaching and learning. However, the chapter also discussed the challenges that may arise when implementing IBL. In spite of these challenges, the promise and soundness of IBL is rooted in established learning theories and a growing body of research evidence. Compared to passive and indirect means to facilitate learning, IBL has the potential to cultivate, over the long-term, a more engaging, meaningful, and effective learning environment.

If designed and implemented properly and within the appropriate epistemic context (i.e., course and discipline-specific), IBL has the potential to address a wide range of learning objectives across all disciplines and across a range of educational purposes. In this sense, IBL can be applied to different modes of inquiry (e.g., artistic, philosophic, scientific) where the nature and types of questions and problems can vary greatly (e.g., well defined vs. ill-defined questions, structured vs. unstructured problems, closed-ended vs. open-ended questions and problems). Thus, IBL is oriented around both process and content and outcomes and is considered a way of learning by focusing on investigating authentic (real-world) questions and problems that are meaningful to learners (Drayton & Falk, 2001).

Within the context of the growing demands placed on education to meet a growing range of complex political, economic, and social problems, education should be a place where lifelong and life-wide learning is cultivated and where self-regulated and self-directed learning is nurtured. Education should be a space where multiple forms of learning are fostered, such as informal learning and collateral learning (e.g., attitudes, values, habits) and multiple forms of knowledge are mastered such as procedural, factual, conceptual, and meta-cognitive. Education, in its broadest sense, is not just about learning facts or preparing for a job but also about serving as an incubator where students are part of a learning community and it is about learning to grow cognitively, emotionally, and socially by taking on increasing responsibility for their own learning.

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THE PROBLEM-ORIENTED PROJECT WORK (PPL) ALTERNATIVE IN SELF-DIRECTED HIGHER EDUCATION

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ABSTRACT

This chapter introduces an approach to higher education developed and practiced over four decades at Roskilde University in Denmark. Known as the Roskilde Model, the approach is characterized by (1) a special type of self-directed learning (SDL), named “problem-oriented project learning” (PPL); (2) a way of organizing undergraduate education into broad interdisciplinary programs; and (3) an interdisciplinary profile where double-major graduate programs allow students to design their own academic and professional profiles. The chapter first explains similarities and differences between PPL and some related concepts of SDL: problem-based learning (PBL), inquiry-based learning, and project learning. Secondly, it outlines the origins and development of Roskilde University and of PPL. Thirdly, it introduces and discusses the building blocks and workings of PPL: problem-orientation, interdisciplinarity, the exemplary principle, participant direction, and group-based project

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work. Fourthly, it describes how studies are organized so as to realize PPL in practice. And finally, it outlines the challenges that current educational policy poses to practicing an educational alternative.

INTRODUCTION

The “Roskilde Model” is an approach to education developed and practiced at Roskilde University in Denmark. The university was founded in 1972 as a “reform university” and originally was designed as an educational answer to the crisis of the traditional universities. It offered an alternative to students wishing to base their studies on the new ideas originating in the 1960s youth rebellion and alternative cultures. For four decades it has served successfully as an educational alternative to the more conventional Danish universities. Briefly stated, the Roskilde Model can be characterized by (1) a special kind of self-directed learning (SDL), named “problem-oriented project learning” (PPL); (2) a way of organizing undergraduate education into broad interdisciplinary programs; and (3) an interdisciplinary profile where double-major graduate programs allow students to design their own academic and professional profiles. PPL has been the subject of various studies, for example, Olesen and Jensen (1999), Mallow (2001), Olsen and Pedersen (2008), Blomhøj and Kjeldsen (2009). More recently a monograph has been published, discussing various aspects of the Roskilde Model from different points of view (Andersen & Heilesen, 2015).

In this chapter, first, we explain the similarities and differences between PPL and some related concepts of SDL. Next, we outline the origins and development of Roskilde University and PPL, followed by a discussion of the building blocks and workings of PPL. Then we describe how studies are organized so as to realize PPL in practice. We conclude by discussing the challenges that current educational policy poses to practicing the Roskilde Model.

PPL AND RELATED CONCEPTS OF SELF-DIRECTED LEARNING

A number of learning theories advocate SDL, notably “problem-based learning,” “inquiry-based learning,” “project learning,” and “problem-oriented

project learning.” In addition to constructivist theories (e.g., [Gijsselaers, 1996](#)) and social learning theories ([Wenger, 1998](#)), this is also true of theories that apply psychoanalytical, critical cultural, and enactivist perspectives to the phenomenon of learning ([Fenwick, 2000](#)).

Problem-based learning (PBL) is a method by which students learn through facilitated problem solving. In PBL, student learning centers on real-world problems that do not have any single correct solution, but are typically complex, open-ended, and ill-structured. Students are expected to decide what they need to learn about and what skills they have to acquire in order to manage the situation effectively (see [Savin-Baden, 2000](#), p. 3). They engage in “self-directed” (SDL) and “self-regulated learning” (SRL) ([English & Kitsantas, 2013](#)), and they reflect on what they have learned and on the effectiveness of the learning strategies employed. [Healey \(2005, p. 7 f.\)](#) traces the origin of “*inquiry-based learning*” both to late 19th Century Peter Kropotkin, who wanted to replace the rote learning method with independent inquiry-based problem solving, and to contemporary experiential learning theory. According to Savery: “Inquiry-based learning activities begin with a question followed by investigating solutions, creating new knowledge as information is gathered and understood, discussing discoveries and experiences, and reflecting on new-found knowledge” ([Savery, 2006](#), p. 16). PBL and IBL have different origins. The former originated in medical education and is based on research on medical expertise. IBL is rooted in the practices of scientific inquiry and places heavy emphasis on posing questions, gathering and analyzing data, and constructing evidence-based arguments (see [Savery, 2006](#), p. 16). However, [Hmelo-Silver, Duncan, and Chinn \(2007\)](#) think that “there are no clear-cut distinguishing features” (see also [Savery, 2006](#)).

When it comes to “*project-based learning*” (PL) versus “*problem-based learning*” (PBL), [Hanney and Savin-Baden \(2013, p. 7\)](#) point out a sharp distinction in the United Kingdom. While the former adopts a chiefly technical rationalist perspective, the latter adopts a more Socratic and dialogical approach. However, project work has a long tradition within different parts of the educational system, ranging from (1) an early period, where it was used in technical and design-oriented education in order to increase the potential for transferring students’ learning to their professional practice, to (2) reformulation of the concept in the early 20th century within the tradition of reform pedagogy and the extension of project pedagogy to include elementary school, and to (3) development of the concept within a critical pedagogical tradition as it was introduced at the reform universities in the 1970s. Today, all three varieties of project work are still in use, exerting

varying influence in different parts of the educational system (see [Apel & Knoll, 2001](#)).

When focusing on the concepts of “problem-based learning” (PBL) and “*problem-oriented project learning*” (PPL, see below: “The Main Features of Problem-oriented Project Learning”) it is evident that they share basic pedagogical ideas. Boud’s characterization of the central features of PBL applies to both concepts:

1. An acknowledgment of the base of experience of learners,
2. An emphasis on students taking responsibility for their own learning,
3. A crossing of boundaries between disciplines,
4. An intertwining of theory and practice,
5. A focus on the processes of knowledge acquisition rather than the products of such processes,
6. A change in staff role from that of instructor to that of facilitator,
7. A change in focus from staff assessment of outcomes of learning to student self- and peer assessment, and
8. A focus on communication and interpersonal skills (quoted in [Savin-Baden, 2000](#), p. 17 f.).

The two concepts, however, have developed from different social and political contexts and have a completely different history. The crucial differences between them concern (1) who formulates the problem for the participants to work with, and (2) how study work progresses. In PBL, the teachers formulate the problem or the problem scenario, and draw up a list of references. In PPL, it is considered crucial that the students formulate the problems of their project work, and that they themselves find literature of precise relevance to the study. Academic requirements and quality standards derived from research projects have a high priority in PPL project work, and are also present in the PBL tradition. However, in subjects such as medicine, economics, and engineering, emphasis within PBL has been placed on establishing teaching methods that support the motivation of the students and facilitate a possible transfer from the study context to the professional work context.

A NEW UNIVERSITY

Roskilde University came into existence at a time when the influx of students was transforming universities from elite institutions into institutions

of mass education. In late 1960s Denmark, a political alliance emerged, criticizing the universities for upholding rigid disciplinary boundaries rather than adjusting to a labor market dominated by both increasing specialization and a need for an interdisciplinary approach to the challenges of modernization and of developing the welfare state. The wish for reform resulted in the founding of two new universities (at Roskilde in 1972 and Aalborg in 1974) with broad basic study programs and a focus on interdisciplinary studies. However, the actual design of Roskilde University education drew less on government intentions than on the positions of the post-1968 student movement that advocated pedagogical reforms based on student-centered and collective work formats, interdisciplinary studies combined with practical social, and political engagement, and participatory institutional democracy with equal participation of students, professors, and administrative staff.

Curricula involved PPL, and the original structure consisted of two-year “basic study programs” (humanities, social sciences, and natural sciences), followed by three years of single- or double-major “superstructure programs” where students from different subjects completed interdisciplinary projects within a common thematic framework. Several educational reforms later, although a rather more conventional organization has been imposed, elements of the original design continue to matter significantly in the university’s pedagogical approach, as described later.

THE MAIN FEATURES OF PROBLEM-ORIENTED PROJECT LEARNING

Fundamental to the Roskilde Model is that problem-oriented project work provides the pedagogical context for the program curricula. Furthermore, the approach encourages team work and self-management within a frame of “house organization,” and it defines an unconventional role for the teachers. Combined, these features provide repeated and long operating cycles, facilitating student learning processes based on research-like inquiries. Below, we expound the pedagogical concept of PPL by discussing its constituent concepts: problem-orientation, interdisciplinarity, the exemplary principle, participant direction, and group-based project work. First, however, we will provide a setting by outlining how PPL is organized in practice.

The Practice of PPL

At Roskilde University, in the course of their bachelor and master studies, students complete a total of eight one-semester projects (each 15 ECTS, European Credit Transfer System) and a thesis (30 ECTS, equaling a full semester). Thus, half the student workload consists of project work while courses account for the rest. The formation of project groups at the beginning of term usually requires a complex process involving from 30 to 120 students. It is organized by the students themselves with the assistance of a faculty “house coordinator” (or subject coordinator at the master level; for “houses” see below: “Program Structures and Interdisciplinarity”). In the course of several days of discussion, the participants evaluate numerous project ideas and negotiate with fellow students so as to end up with a subject they wish to explore together with peers that they want to team up with. Once group formation has been completed, a supervisor is allocated to each group. The group identifies a theme of study within a broader field of interest, and singles out a problem that relates to the theme. The theme selected constitutes the context for the problem picked. It is the framework for arguing the personal, social, and academic relevance of the problem. The supervisor supports the students in exploring the theme and in tightening up and clarifying the research question.

Project work must meet academic criteria. Thus the students have to complete systematic literature searches, produce an overview of relevant research, decide on what scientific theories will serve as a framework for the project work, and identify appropriate analytical methods. The student group reflects on criteria for selection and rejection of theories and methods. The supervisor may help with suggestions, but his/her main task is to support the students’ own activities and their SDL. All phases of project work involve iterative processes where the students reflect critically on their choice of empirical field, theoretical framework and methodology as they produce and analyze empirical data. The supervisor engages in a dialog with the students on these matters, and contributes to the project work by involving his or her own professional research experience.

Finally, the students draw conclusions based on their findings. They critically reflect on various aspects of their project work, and they put the project into perspective in relation to broader social and academic issues. At this point, the supervisor acts as a discussion partner, helping not only to conclude the project, but also to bring out connections to more general theoretical or practical matters (see the section “The Exemplary Principle”).

To help students focus on their project work in the second half of the semester, most courses are placed early in the semester, running parallel to and supplementing the early stages of project work. At the bachelor-level, courses either provide general academic knowledge or support project work directly (e.g., project planning and project methodology). At the master level, course offerings depend on subject area.

Project work is evaluated continuously and mutually by the project group members and their supervisor, and also at seminars where pairs of project groups and their supervisors engage in critical and constructive dialog. Student project work is assessed at oral group exams. This type of assessment where all group members participate in a discussion of the project is a continuation of the project work and allows the group members to present and discuss their work together with the examiners more intensely and with more time available than would be the case at individual exams. Grades are given individually for performance at the oral exam, and the time allotted for examination is proportional to the number of group members, providing time for in-depth questions and answers.

Problem-Oriented and Interdisciplinary Studies

Project work at Roskilde University is characterized by being problem-oriented and exploring real-world problems. The fundamental pedagogical idea is to link problem-orientation to interdisciplinarity, that is, to allow the problem of a project, rather than a traditional discipline, to determine the choice of theories and methods.

The criteria for defining a problem for project work were first elaborated by Illeris (1974, p. 187) as a trinity of personal, social, and study-related relevance. Thus, issues should: (1) be perceived as immediately relevant for the individual participants in a group of learners and of common interest to all learners in the group (ensuring motivation and commitment); (2) be of such a nature that they can elicit broader social structures and the basis for these structures (ensuring orientation toward actual social problems); and (3) comply with the curriculum of the study program (ensuring compliance with academic standards).

In dealing with problems, interdisciplinary contributions from different relevant theories and methods are needed. The concept of interdisciplinarity is still evolving, and today various types of interdisciplinarity can be distinguished, importantly:

- *Multi-disciplinarity* involves an additive approach (Holley, 2009, p. 333). In multi-disciplinary research, the collaborators draw on knowledge, theories, and methods from different disciplines, but without deviating from the approach of their individual disciplines.
- *Cross-disciplinarity* develops research on particular issues in collaboration and mutual influence across the disciplines (Enevoldsen, 2012, p. 32). To create holistic knowledge, issues and problems are addressed from several disciplinary perspectives, as theories developed within one discipline affect theories in other disciplines, or as methods developed within one discipline affect the methods of other disciplines.
- *Transdisciplinarity* means that the disciplines required for exploring a problem work together, subordinating their scientific axioms, theories, and methods to the common research enterprise (Enevoldsen, 2012, p. 41 ff.; Jensen, 2012, p. 61). Transdisciplinarity includes various types of interdisciplinary research such as Mode 2 and action research.

In a given context, the specific research tradition and academic culture determine what kind of interdisciplinarity will come into play. The co-existence of a plurality of cultures entails that there are academically legitimate distinctions as to how interdisciplinarity is practiced. At Roskilde University at least five academic cultures are in evidence (Jensen, 2012, p. 66 f.):

- Mathematical modeling (primarily in Mathematics and Physics). Interdisciplinarity depends on the researchers having comprehensive knowledge and skills in their discipline. Each discipline has a knowledge base that must be mastered, also when just used to support other disciplines. The various disciplines may enter into either multi- or cross-disciplinary collaboration, or in transdisciplinary collaboration fashioning new subjects by adding specialized disciplines.
- Empirical experimental (primarily in Biology and Chemistry). The culture has a theoretical basis, prescribing specific criteria for advancing and testing hypotheses and carrying out experiments. Various disciplines may engage in multi- or cross-disciplinary collaboration. The culture has contributed to action research, notably projects where experimental scientific knowledge has been pivotal to understanding of environmental, and health and safety issues.
- Analytical and reflective (primarily in the humanities). The culture has its analytical focus on historical or contemporary cultural products (signs and texts). The study of them aims at increasing academic understanding by providing cultural, historical, and philosophical information and

developing theories and methods. Disciplines may engage in multi- and cross-disciplinary collaboration, and may also help establish new, trans-disciplinary subjects. Furthermore, various disciplines may contribute actively to develop culture (e.g., Mode 2 or action research). This implies, however, a departure from the original analytical and reflective academic culture.

- Analytical academic (prevalent within social science and subjects located in the intersection between social science and the humanities). Research within this culture particularly focuses on social issues. It figures prominently at Roskilde University whose *raison d'être* is societal engagement and the production of socially relevant research. Disciplines engaging in this culture tend to have an interdisciplinary approach, often involving direct collaboration with external partners. The collaboration may be multi-, cross- or transdisciplinary. Creative constructive (primarily in communication-, construction-, intervention-, and planning-oriented studies). The culture is prominent in disciplines where special importance is accorded to construction and design, based on high academic standards. When engaging in various types of interdisciplinary collaboration, disciplines focus on upholding their innovative and creative character.

Academic disciplines and traditions play an increasingly important role at Roskilde University. Still, different notions of interdisciplinarity figure prominently in the academic discourse (Enevoldsen, 2012, p. 33 f.), and the composition of the educational profile illustrates that interdisciplinary studies are still highly valued. New interdisciplinary programs have been established, based on collaboration among researchers from different disciplines, who have come in contact because of the interdisciplinary organization of studies. Thus, interdisciplinary collaboration within and across academic areas has acted as a major incentive for continued educational innovation.

The Exemplary Principle

It is the particular strength of PPL that participants study specific problems in depth, identifying and analyzing them by drawing on theories and methods. However, the quite narrow focus on exploring a specific problem may also be interpreted as a weakness, and it raises the question of how to gain

broad insight into a discipline or subject. In terms of project work, the answer has been the exemplary principle.

At Roskilde University, the German social scientist Negt (1971) has inspired the concept of exemplarity. According to Negt, the educational content has an exemplary value if it both includes and transgresses the immediate interests of the learners. Negt was inspired by Wagenschein (1956), who saw the “exemplary principle” as a method for reducing curricula without omitting important learning outcomes, and who stressed how the principle would support learners’ comprehension of broader scientific contexts. Furthermore, Negt’s theoretical didactical considerations have been inspired by Wright Mills’ concept of “sociological imagination.” For Mills (1959) the role of social science is to clarify the public dialog and to support the spread of democracy, understood as the strengthening of peoples’ influence on decisions that affect them in their everyday life. According to him, this means that social sciences should be characterized by illustrating the interplay between social conditions, the everyday environments of peoples’ lives, and the circumstances of their lives as perceived from their life story perspectives.

The exemplary principle may be implemented by different pedagogical strategies, for example, by requiring project reports to reflect on social, theoretical, or methodological issues, by requiring group members to discuss the projects among themselves taking into consideration a broader scientific and social framework, or by committing the students to reflect on the relation between course content and their own project work. Exemplary learning is not always achieved if the responsibility is left solely to the students. Indeed, some projects do not go beyond exploring relatively narrow issues. Possible explanations are that the principle of exemplary learning is not clearly stated as a formal requirement for project work, or that the students do not reach beyond the point of completing the targeted study of narrowly delimited problems (Ulriksen, 1997, p. 82 ff.).

Participant-Directed Learning

Participant-directed learning, being a mode of “self-directed learning,” is a key constituent of Roskilde University’s educational philosophy. It entails facilitating more democratic forms of studying. The reasons for referring to participant-directed rather than student-directed learning are (1) that teachers are allocated to supervise the students; and (2) that participant-directed activities always unfold within a formal curriculum, a framework

that cannot but affect the substance of the students' work. Although still an ideal for problem-oriented project work, participant-directed learning is the cause of some clashes of interest. Firstly, there is a potential conflict between the function and obligations of the supervisor. In the project work process, the supervisor should act jointly with the students' project work, supporting the learning process without actually directing it. But when assessing the project report and the performance of the individual student, the supervisor is obligated by the prescribed learning outcomes of the academic program. Thus, the supervisor must weigh focus on learning processes against satisfactory outcomes. In the project work process the students may become uncertain whether the supervisor unreservedly is supporting the students' project goals or is acting with a view to meeting certain learning outcomes. Secondly, the students' needs and interests may clash with curriculum requirements, the provisions for learning outcomes being experienced as a constraint on the individual study interests of the students.

Recently, Cath Lambert has tried to revitalize the arguments for participatory pedagogy, based on a critique of the neo-liberal discourse of education. Participatory pedagogies may challenge the "logic of education as a commodity of service" (Lambert, 2009, p. 303). Her idea is to "reinvigorate the idea of participation in such a way that it makes sense of the everyday, embodied activities of student researchers, and captures the social and political importance of both intellectual and participatory practice" (*ibid.*, p. 296). Lambert mentions different approaches to participatory pedagogies that are applied in higher education: "research-," "enquiry-," and "problem-based" learning, and argues that these approaches all accentuate an explicit commitment to the idea that students should be producers of knowledge and not only consumers. Somehow, Lambert's deliberations revive Wilhelm von Humboldt's (1767–1835) ideas of what a university should be, but against a modern background and with a pointed critique of the kind of consumerism that is supported by neo-liberalism.

Group-Based Project Work

Project work figures prominently in the Roskilde University educational structure. Over the years, different types of projects have developed to meet the requirements of different academic cultures. Most projects are modeled on the format of the academic dissertation, while some focus on the dissemination, planning, and design of products. In design- and

product-oriented programs it is sometimes necessary to downplay project work in favor of pedagogical models with course work, and workshops that include relatively long and intensive periods of designing and producing. In the course of the project, participants draw on various disciplines and methods in order to achieve their goals. Over time, student activity revolves around a complex series of interactions among the team members, just as it draws on a range of transferable skills such as communication and planning. By engaging in the projects, students work with theory and scientific methods. This means that theory and method are employed as means of working toward an objective. At the same time, theory and method are placed in a context where they have a purpose beyond mechanical acquisition (Simonsen & Ulriksen, 1998, p. 137; see also Hanney & Savin-Baden, 2013, p. 8).

Group work is meant to support collaborative learning processes that are likely to generate more advanced knowledge than most individuals are able to develop by themselves. Furthermore, participants in group processes also learn how to work in teams. It is a requirement at Roskilde University that project work must include at least two participants, the argument being that the learning outcome of the educational programs can be realized only on the basis of extensive experience with group project work.

Labor market demands for project skills are important for justifying the use of project work at the university. Research indicates that employers are looking for work-related project competencies involving knowledge about:

- How projects are dependent on internal and external contexts, rationales, resources, structures, systems, and cultures of companies and organizations.
- Various forms of project management used within companies and organizations, and the ability to critically reflect on strengths and weaknesses of different forms of project management.
- Various tools for optimizing project work as part of professional working practices; tools that are integrated in the common language of business and organizational contexts and in the expectations for project skills.
- Expectations in companies and organizations regarding personal skills of communication, collaboration, conflict resolution, creativity and innovation, balancing the relation between context and self, and management of the self (Andersen, 2013; see also Kapsali, 2011; Saynisch, 2010).

When bringing the experiences from academic project work to the labor market, it may be useful for university graduates to be aware of such requirements and to be able to convert the explicit and tacit knowledge derived from university project work into project work in other settings. Conversely, some tools developed in a professional context to optimize different aspects of project work may help enhance the quality of project work at the university. However, there is reason for cautioning against uncritically importing business perceptions of project management into university studies, as they tend to foster an ideology of control to the detriment of unfolding creativity (Hanney & Savin-Baden, 2013, p. 9).

PROGRAM STRUCTURES AND INTERDISCIPLINARITY

In accordance with the Bologna Model, studies at Roskilde University are organized into three levels. The entry level consists of three-year bachelor programs in the humanities, humanistic-technological sciences, natural sciences, and the social sciences. Most bachelor students continue their studies in double- or single-major two-year master programs. Finally, graduates with a master's degree may apply for admission into a three-year PhD program at one of the university's doctoral schools. Below, we will focus on the current design of the undergraduate and graduate levels so as to explain the organizational and interdisciplinary characteristics of the Roskilde Model.

Bachelor Programs

The bachelor programs have retained an initial broad, interdisciplinary part (65 ECTS) which serves as the foundation for subsequently choosing two specialized subject modules (35 ECTS each). The subject modules include one project (15 ECTS) and four subject courses (each 5 ECTS). In addition, all bachelor programs include two 5 ECTS optional courses, that may help make the choice of subject modules more flexible. Thus, if a student changes his or her choice of subject module after having taken one or two subject courses in, say, the third semester, the optional courses can be used as subject courses in the new subject module, thus preventing a prolongation of the bachelor studies for the student. The bachelor programs are concluded by a bachelor thesis (15 ECTS).

Each of the six semesters is composed of three courses (5 ECTS-points each) and project work that is documented in a written report (15 ECTS). While one specialization subject must be within the main academic area of the bachelor program in question, the other one is likely to be chosen across the boundaries of the main areas. Course assessment usually is based on a written assignment, whereas project work is assessed at an end-of-term oral group exam using the project report as the point of departure (see the section “The Practice of PPL”). Courses and project work complement one another, the former systematically introducing students to theories, methods, and concepts of various academic fields, and the latter letting the students apply their newly acquired insights to actual real-world problems.

In the first three semesters, the projects are interdisciplinary so as to require an approach combining various disciplinary dimensions. In the humanities, for instance, the interdisciplinary dimensions are: “Culture and History,” “Subjectivity and Learning,” “Text and Sign,” and “Science and Philosophy.” In the fourth and fifth semester projects are carried out within two academic specializations, and in the bachelor thesis the students either pursue one of the specializations or work to combine the two of them in their thesis.

The curricula have been designed in such a way that the students are trained both in recognizing the potentials of an interdisciplinary approach to problem solving, and at the same time are introduced to disciplinary perspectives, from which they will eventually choose their academic specializations.

The physical and social frameworks play a pivotal role in the bachelor programs. Each of the four programs is organized in one or more “houses” accommodating 120 students, four to eight supervisors allocated from various departments, and some administrative staff. The houses – containing classrooms, offices, space for group work, a kitchen, and a recreational area – constitute an academic as well as a social unit, fostering a sense of identity and cohesiveness that is important to the successful acculturation of new students to group project work. It also offers a very literal reification of interdisciplinarity in that the supervisors represent not only different departments and subjects, but also a variety of theoretical and methodological approaches. Thus, throughout the semester, the students are exposed to a multi-faceted understanding of academia. Early on, it takes place in the process of group formation (see the section “The Practice of PPL”). Later, when groups have been formed, each with an assigned supervisor, there will be seminars for discussing problem-formulation, a mid-term evaluation, and an end-of-term evaluation.

Master Programs

The specific feature of Roskilde University master's programs is that students may design their own study program by combining the two fields or subjects that best support their academic interests and career plans, continuing their studies at one or two of the university's six departments. The first two semesters combine equal shares of courses and project work, the third semester features a range of courses, seminars, and workshops, while the final semester is reserved for writing the master thesis. As students are required to work in groups on projects, and as group members often have backgrounds in different bachelor programs (e.g., humanities and social sciences), the significance of an interdisciplinary approach to research is further accentuated.

There is a choice of following a double-degree program or a single-degree program. The former is by far the most common. It combines two subjects, and students may continue at the master level within the subjects chosen at the bachelor-level, specializing in each of them while at the same time developing an interdisciplinary understanding of them. One subject must be chosen as "primary" (meaning that it frames the thesis), and it can be combined with one of eight "secondary" subjects approved by the study board as relevant and interesting from an interdisciplinary point of view. Limiting the number of options helps departments organize combination programs as continuous cycles with a clear delegation of responsibility for research support. It is quite common for students to replace one of the bachelor-level subjects with one from a different branch of science, for example, combining a subject from the humanities with one from the social sciences (e.g., subjects Psychology and Business Studies), or combining natural science and social science subjects (e.g., Math and Social Science). Eleven subjects are offered as single-degree programs, and they are characterized by being interdisciplinary by design, examples being Global Studies, Social Entrepreneurship and Management, Spatial Designs and Society, and Environmental Risk.

INTERNAL AND EXTERNAL CHALLENGES

Once considered radical, today elements of the Roskilde Model have been accepted at many other institutions, ranging from high school to colleges and universities. But the Roskilde approach to education has never become

habit. Challenges come both from faculty and students, and from society. Faculty members tend to challenge the conceptual understanding and practice of PPL, alleging that single-academic subjects should define their teaching and research. This apparent conservatism suggests a reaction to current trends of politically defined strategic research and the adaptation of academic programs to specialized labor market demands; and it is also a strategy for self-preservation in an academic world increasingly dominated by formal publishing requirements. Students have different needs and requirements. Some students easily embrace PPL. Others, after enrolling at Roskilde University, discover that they prefer teacher-directed single-subject programs. As is the case in many countries, Danish university education has become subject to a number of external pressures. Public finances are strained because of the current economic crisis, and the government demands rationalization and budget cuts in all sectors. Politicians define society as a threatened community that can survive in the global competition only if organizations, companies, and individuals increase their productivity. They argue that university education is too expensive, and that too many students graduate from the Danish universities. They also argue that university education is often irrelevant to business needs. Politicians conclude that students should be guided more quickly through their studies, that dropout rates should be reduced, and there should be more focus on employment opportunities in the existing labor market. Until now, the political levers have been: (1) to close down or reduce university programs with low employment rates, (2) to punish students and universities economically for not reducing study completion time, and (3) to curb enrollment in programs with actual or potential overproduction of graduates.

Although comprehensible in times of recession, these political measures represent specific threats to the university and hence to its pedagogical approach:

- Having a profile with many programs within the humanities and social science and none within engineering and medical science, Roskilde University is particularly exposed to the negative employment patterns caused by the recession.
- While the postponed choice of subjects helps optimize matches between educational motivation and choices of professional careers and actually means that students complete their bachelor degree more quickly than students at other Danish universities, completion rates are slower than average at the master level.

In addition to these largely economic challenges, recognition of the importance of interdisciplinarity is being challenged by national accreditation of interdisciplinary programs being carried out by representatives from conventional single-academic subjects; sorely tempting program planners to stick to uncontroversial, standardized designs.

More fundamentally, regarding the structure of the Danish higher education area, the government recently has aired ideas for a new model of university education. Thus, publicly funded university education, typically leading to a master degree, may be replaced by one leading to a bachelor degree, studies beyond which will be divided into professional master degrees for the many (possibly part-time and fee-based), and research-oriented graduate and post-graduate studies for an elite. The economic rationale behind the model will be that society is willing to pay for basic academic and professionally oriented education and elite training, while continuous education might perhaps be financed by private funding. A reform along these lines would run counter to the basic educational philosophy of Roskilde University of offering broad bachelor programs, a gradual choice of specializations, and targeted job specialization at the master level.

The educational strategy of Roskilde University has always been to develop types of academic knowledge that respond to the challenges from broader society and labor market requirements. In this perspective, the problem is not that politicians require occupational relevance. Rather, the problem is that political statements – in response to the perceived mismatch between universities and societal needs – suggest a unilateral prioritization of very narrow business relevance at the expense of social relevance and academic standards. Thus in many ways, Roskilde University has become subject to pressures that make it harder to insist on being an educational alternative in terms of program structure, academic and professional orientation, and pedagogy.

There may be a need to formulate a more balanced understanding of the university's relevance to society. In terms of societal needs that universities should meet, we will suggest four types of relevance:

- **Scientific relevance:** Universities must be based on society's highest level of knowledge as well as knowledge about how such knowledge is produced.
- **Social relevance:** Universities must relate critically and reflectively to the social significance of science and seek to provide answers to important societal challenges.

- Employment relevance: Universities must strive to plan to meet current and future labor market needs for knowledge, skills, and competencies.
- Personal relevance: Universities must consider the students' backgrounds, professional interests, and their conceptions of a meaningful worklife.

The four types of relevance are closely linked and need not conflict, even if they may do so. We wish to emphasize that it is imperative to avoid one-sidedness when deciding what types of relevance to attach importance to when organizing programs at the universities. At the same time, the university should be well aware of the fact that academic studies require distinctive time rhythms and modes of production that would be undermined if they were exclusively to be defined by instrumental and short-term interests.

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CRITICALLY EXAMINING INQUIRY-BASED LEARNING: JOHN DEWEY IN THEORY, HISTORY, AND PRACTICE

William E. Herman and Michele R. Pinard

ABSTRACT

This chapter introduces the history and development of inquiry-based learning (IBL) and describes how teaching and learning strategies over several decades in P-12 and higher education have built upon the ideas of John Dewey. Though personal reflection, uncertain learning paths and outcomes, and mindful inquiry have been central foundations undergirding IBL, the approach now stands upon the shoulders of theoretical and research giants such as Piaget, Vygotsky, and Bruner. Over 100 years, modern IBL proponents like Gruenewald, have implemented and experimented, contributing to cognitive and social science pedagogy, for instance, by attempting to make contemporary teaching and learning relevant, thoughtful, and action-oriented.

Dewey's work continues to dominate educational landscapes and inquiry-based approaches to teaching and learning have, in contemporary forms,

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withstood the test of time. Two case studies in this chapter illustrate how IBL has materialized as problem-based and place-based methodology, reflecting influences of social and cognitive constructivism, humanistic psychology, and eco-feminism. Those who embrace IBL continue to improve teaching and learning strategies in order to find more effective methods of immersing themselves and their students in globally critical conversations about essential life issues – inside and outside of classrooms – a central and enduring tenet of Dewey’s experiential learning.

John Dewey, in *How We Think (1910/1991)*, discussed how inspirational teachers guide students’ thought processes and personal reflection to affect positive learning outcomes; these have become foundational elements of inquiry-based learning (IBL). Were Dewey to visit contemporary P-12 and higher education settings today, he would find himself awash in “inquiry-based” jargon: learning communities; content-driven teaching; critical pedagogy; and active, discovery, self-regulated, authentic, student-centered, collaborative, problem and place-based learning.

Here authors apply IBL to problem and place-based learning. Dewey life snippets thread among three notable educators’ contributions: Lev Vygotsky, Jean Piaget, and Jerome Bruner. Two case studies show pragmatic challenges and opportunities practitioners face implementing IBL. Core groundwork Dewey and others laid are exposed to show what remains relevant for those interested in international problem and place-based IBL today.

JOHN DEWEY (1859–1952)

In native Vermont, young John Dewey witnessed his father enlist in the American Civil War, moved to Virginia, and, was exposed (by age six) to war horrors. Such experiences impacted Dewey, his concern for individuals, and contributions to domestic and international society (Cochran, 2010). Influenced by Congregationalism, which emphasized moral behavior, social reform, and thoughtful actions, at 15, Dewey entered the University of

Vermont (UVM). He graduated second in his class (1879) and, with practical teaching experience, became intrigued with philosophy. Later, he enrolled and received a doctorate at Johns Hopkins University (1884). Academic appointments in Michigan, Minnesota, and Chicago (where he founded the Laboratory School), preceded Teachers College at Columbia University in New York City.

Charles Darwin published *Origin of the Species* in 1859, the year Dewey was born. Shifts influencing the acceptability (if not controversy) of human evolution study and its more scientific methods were resulting in a confluence of ideas that could not have been more timely for teachers. In Dewey's time, most students learned by rote. "Exceptional or problem learners" routinely sat in corners adorned with dunce caps! Dewey famously reformed American education practices by focusing upon what students were – or were not – doing; his Progressive notions drew from psychology, education, and philosophy.

Spouse Alice Chipman, a teacher, also fiercely promoted children's innate right to inquire (Walker, 1997) agreeing students should legitimately govern their own learning. Dewey's early outdoor work with youth in Vermont, as well as studying his own children carefully (Walker, 1997), underscored values he placed on learning in natural settings. Having watched the country rise from destruction to become industrialized, Dewey advocated for education systems that promoted democratic ideals, much like Thomas Jefferson did:

A democracy is more than a form of government; it is primarily a mode of associated living ... the great heroes who have advanced human destiny are not its politicians, generals, and diplomatists, but ... the artists and poets who have celebrated his struggles, triumphs, and defeats ... (Dewey, 1916, pp. 101, 253–254)

Dewey's ideals embodied reactions to inequities and educational circumstances inside classrooms and those emerging in late 19th century society. He lectured in Japan and China, consulted in Turkey, and visited former Soviet Union schools, criticizing industrialist divisions in America between wealthy citizens and struggling poor citizens. Political activism and friendship with Jane Addams led to becoming a trustee for Chicago's Hull House. He supported Teddy Roosevelt, the 1912 "Bull Moose" candidate; published civil rights essays in the *New Republic*; held charter membership in the first teacher's union in New York City; worked for women's suffrage; and, promoted the American Civil Liberties Union (Cochran, 2010; Dykhuizen, 1973).

MODERN PROPONENTS OF INQUIRY-BASED LEARNING

Dewey advocated for IBL. An anecdote relates Dewey searching a local school supply store for suitable desks and chairs to meet the:

... artistic, hygienic, and educational ... needs of children. We had a good deal of difficulty in finding what we needed, and finally one dealer, more intelligent than the rest, made this remark: "I am afraid we have not what you want. You want something at which the children may work; these are all for listening." That tells the story of the traditional education. (1899, pp. 47–48)

This interaction illustrates how Dewey intertwined cognition, social interaction, and classroom desks, reimagining teachers optimizing IBL environments. Along with Progressive educators, constructivist forerunners took foothold and IBL has flourished, having "been promoted by such notable scholars as John Dewey, Lev Vygotsky, Jean Piaget, and Jerome Bruner" (Snowman & Biehler, 2013, p. 302).

Lev Vygotsky (1896–1934) developed his views, ironically, while Marxist struggles occurred behind the Iron Curtain when Stalin and Cold War politics prevented free exchange of ideas (Sawyer, 2014). Like Dewey, Vygotsky agreed education should support social justice movements and improve society (see p. 97). Articulating the interplay between cognitive and social constructivism, he believed humans question to practically change physical environments and test individual thoughts against others', although collaborative efforts do not always support collective learning. Classism can and does profit one person over another. Teachers should purposefully scaffold students' IBL, provide prompts within proximal zones of development, and promote reflection upon actions. Vygotsky affirmed how "active, persistent, and careful consideration of any belief or supposed form of knowledge ..." leads to "generated confusion and suspended belief ..." (Dewey, 1910/1991, pp. 6–9) rather than a priori "proof."

Jean Piaget (1896–1980) also thought personal engagement was necessary for cognitive change, through schematic development. Piaget assumed learning tasks require inherent practical value to capture student interest. Manipulating objects or concepts to discover principles, students share "truths" and offer scientific evidence or proof, realizing constructivist IBL principles: "... education is a constant reorganizing or reconstructing of experience ... It is that reconstruction or reorganization of experience which adds to the meaning of experience, and which increases

ability to direct the course of subsequent experience” (Dewey, 1916, pp. 89–90).

Saunders (1992) confirmed: “... learners respond to their sensory experiences by building or constructing in their minds, schemas or cognitive structures which constitute the meaning and understanding of their world” (p. 136). IBL ideas emerge, are communicated, tested, and cared for in a social context, according to Piaget and others (DeVries, 1997; Watts, 1994).

Finally, Jerome Bruner (1915) advocated IBL by stressing personal meaning to activate participation and build cognitive structures. He is associated with discovery learning, inquiry methods, intuition, vicarious learning, and inductive and deductive reasoning. Bruner wrote:

“We teach a subject not to produce little living libraries on that subject, but rather to get a student to think ... Knowing is a process, not a product” (1966, p. 72). Consequently, teachers are not absolved of active roles in IBL and discovery learning. While Bruner and Vygotsky suggest learning involves students actively engaging with objects within structured circumstances (Bergstrom & O’Brien, 2001), teachers act as coaches, encouraging students to discover principles for themselves. Selected taxonomies and assessment strategies support deeper levels of synthesis, application, and knowledge construction. Question-types posed, as well as responses expected, encourage or allow minimally satisfactory and, preferably, exemplary engagement; these are critical for motivating and sustaining independent IBL.

To this point, Dewey might recognize the time he reputedly asked a class:

“What would you find if you dug a hole in the earth?” Getting no response, he repeated the question; again he obtained nothing but silence. The teacher chided Dr. Dewey, “You’re asking the wrong question.” Turning to the class, she asked, “What is the state of the center of the earth?” The class replied in unison, “Igneous fusion” (Bloom, Engelhart, Furst, Hill, & Krathwohl, 1956, p. 29).

Essentialist and rote learning methods ran counter to Dewey’s expectations about teaching and learning. Constructing environments for thoughtful questions and responses to occur are crucial in IBL. Emphasis is placed not on “right answers,” but on how knowledge is acquired. Significantly, Dewey stressed both deductive *and* inductive thinking, synthesis *and* analysis. Citing geography, for example, he explained:

The synthetic method is supposed to begin with the partial, limited portion of the earth’s surface already familiar to the pupil, and then gradually piece on adjacent regions ... till an idea of the entire globe is reached ... The analytic method is supposed

to begin with the physical whole ... and work down through its constituent portions till the immediate environment is reached ... Analysis leads to synthesis; while synthesis perfects analysis ... this process always consists in taking (events) out of their apparent brute isolation as events, and finding them to be parts of some larger whole ... (1910/1991, pp. 114–118).

Rather than contriving learning interactions, Dewey explored assumptions behind questions, expanded students' knowledge from immediate referential frames to broader contexts, and returned to immediate examples. Motivating students to pause, assess situations, question, apply critical lenses to base knowledge, and apply skills, students became better problem-solvers. Sustained interactions and problem-posing strategies were key Dewey methods. Teachers' identity metaphors shift from "sage on the stage" to "guide on the side" (King, 1993).

DEWEY ON PROBLEMS AND PLACE-BASED IBL

Problem and place-based IBL emphasizes authentic, ill-structured questions, as Dewey practices did, allowing for: free inquiry; interdisciplinary, collaborative curricula; self-directed learners that reanalyze "resolutions" in debriefing processes; and, interpersonal, intrapersonal and procedural assessments (Savery, 2006, pp. 13–14). Successful problem and place-based IBL curricula are theme-oriented, interdisciplinary, experiential, and assessed in meaningful ways (Bergstrom & O'Brien, 2001). Open-ended questions posed prior to and while conducting learning are critical for motivating students. Transforming learning spaces and transferring ownership of learning to students are germane. Communicating with stakeholders, sharing learning processes and results with authentic audiences, and evaluating program outcomes extends student application of knowledge and skills to form authentic bases for reflection in interdisciplinary IBL study (Gruenewald, 2003; Gruenewald & Smith, 2008; Sobel, 2008).

Dewey's existentialist leanings show how individual and group learning may be made explicit. In problem and place-based IBL, early imperatives are found: "The moment children act they individualize themselves; they cease to be a mass ..." (1899, p. 49). Rogers recalled in *Freedom to Learn* (1969), referencing Søren Kierkegaard, the Danish philosopher, how what students learn juxtaposes with teacher-centered learning: "I have come to feel that the only learning which significantly influences behavior is self-discovered, self-appropriated learning" (p. 153). Students' existential

realities may be impossible to directly communicate, but they correlate with “individuals on the firing line facing immediate problems – teachers, doctors, farmers, counselors – (and) are especially effective because the individuals are trying to cope with problems ...” (1969, p. 162).

IBL, like Dewey, sees individuals and communities as funds of knowledge rather than as deficits or problems (Gonzalez, Moll, & Amanti, 2005 in Buxton & Provenzo, 2012, p. 11). However, Dewey (1899) warned that inquiry was *not* at the heart of all formal educational institutions where children learned: “When the child gets into the schoolroom he has to put out of his mind a large part of the ideas, interests, and activities that predominate in his home and neighborhood” (p. 89). Fundamental theories in education that have positioned students as active learners include postmodernism, eco-feminism, and critical theory. Legitimately tying inquiry to “truth-seeking,” individuals holding these lenses encourage students to ask critical questions – about themselves and their communities. Reflecting on and teaching about deeper issues using place-based problems of socio-environmental and human concern, qualitative educators who draw from the post-modernist period (approximately 1990–1995) tap into one of seven “historical” moments in North America’s complex historical research field (Denzin & Lincoln, 2000).

Post-modernists eschew traditional teacher-centered methods in favor of student-centered inquiry; lectures and Socratic discussions fall out of favor. Personal storytelling nurtures students’ doubts about central “truths” and urges students to adopt responsibility for questioning assumptions, given methods or theories. Ethnographers use action research methods to examine and (re)position learners within their places, communities, and societies. Students leading seminars question the status quo to develop solutions to social or environmental problems; research and learning are seen as intertwined personal and public acts, but the intrapersonal is privileged more than the collective to challenge historically unbalanced authoritative representations of what it means to know, discover, and learn (Denzin & Lincoln, 2000).

Teachers use problem and place-based IBL methods to achieve outcomes by meshing individuals’ learning, classroom foundations, and real world connections. They prefer holistic, integrative, collaborative, and multi-disciplined decision-making processes. Unfortunately, misappropriated curricula, inadequate student preparation and commitment, insufficient resource investment, and underdeveloped or inappropriate assessment methods (Savery, 2006, pp. 10–11) can undermine IBL outcomes. Ideally, problem and place-based exercises foster students’ critical thinking and

solutions to contemporary problems in order to build a more just or sustainable world. These methodologists align IBL to operate from a Dewey premise: "... the educator cannot start with knowledge already organized and proceed to ladle it out in doses" (1938, p. 102).

Skeptics may resist, charging students lack maturity, sophisticated thought patterns or self-discipline to lead or take ownership of IBL. Advocates observe: "Learning in school has been so long associated with a docile or passive mind that because that useful organ does not squirm or talk in its operations, observers have come to think that none of the child should do so, or it will interfere with learning" (Dewey, 1915, p. 136). Although standardized exam pressures isolate teaching from students' lived experiences, programs (Buxton & Provenzo, 2012) have (re)established a "pedagogy of place," showing that communities have common problems. Current IBL stresses local community character with *unique* concerns and sources of indigenous knowledge. Differentiating goals of outdoor education, community-oriented schooling, ecological education, and bioregional education, problem and place-based IBL goals include cultivating ecoliteracy and ecological identity (see Orr, 1994; Thomashow, 1995; as cited in Woodhouse & Knapp, 2000, p. 1). Outcomes include cultivating civic values, community ties, and engagement with the natural world. In fact, teachers using problem and place-based IBL have been able to "close the achievement gap" in 40 schools in 12 states with more than 400 students, 250 teachers and administrators (Lieberman & Hoody, 1998). Comparing studies of standardized test scores, Grade Point Averages and attitudinal measures, outcomes challenged international data showing U.S. students lagging in science and social studies content and skill knowledge and application (Buxton & Provenzo, 2012, p. 3). Science, technology, engineering and mathematics (STEM) funded initiatives and curriculum initiatives in U.S. higher education and P-12 classrooms today may increasingly identify opportunities ripe for IBL curricular designs and assessments to successfully focus individuals' and communities' inquiry on pressing local *and* global issues. Concerns about water shortages or human trafficking issues are examples of IBL issues that could stimulate students and teachers to inquire about universal truths impacting people worldwide.

Alice Chipman Dewey promoted individual and social inquiry and influenced her husband's feminist stances; both encouraged children to actively investigate their environments. The Deweys were reputedly accused of unorthodox methods of parenting because they allowed their older children to observe younger siblings' natural childbirths (Walker, 1997, p. 17). While teachers particularize knowledge-seeking processes, build content

and skills, they assist students to generalize solutions for and with others who hold global perspectives. Teachers and students investigate and creatively attempt to solve community environmental and socio-economic challenges, seeking outcomes that inform citizens while creating learning in sustainable, ecologically friendly ways. Since Dewey cared about equitable resource acquisition, distribution, and conservation, as well as knowledge ownership, it is not surprising that IBL is supported by eco-feminists aligned with environmental social justice movements. They demand that gender issues, dominance and duality, and marginalization issues not be overlooked when using place-and problem-based IBL. International problem and place-based IBL advocates would challenge students to: explore and problematize gender issues across time in all places; critically examine patriarchal, political systems; expose economic exploitation patterns and human relationships; and, explore and address how natural events and humans in their surroundings, as Vygotsky also argued, have resulted in knowledge-creation, norm-making, and destructive consumptive patterns (Sawyer, 2014).

Today, communities interested in children's recreational rights, for example, could compare labor versus leisure patterns in different locales; IBL teachers might assist students to investigate the "nature-deficit disorder" (Louv, 2008) and examine contrasting places' positions. Teachers and students inquiring about U.S. versus Australian school recess schedules could focus on what is learned during or from outdoors play, for instance, as a central problem in place-based IBL. The curriculum content, affective understanding and skill development could concentrate on gathering and contrasting data on societal values about learning outdoors, medicinal, and food information gleaned from traditional plants, eco-feminist dialogs about women's contribution to knowledge – via literacy and domestic duties, for example (Harvester & Blenkinsop, 2010). Youth could investigate oral histories, spoken wisdom and what indigenous elders "teach" by investigating community-based and non-traditional or text-based literacy sources. Comparative IBL outcomes could include those in which Western youth view formal and informal educators in non-Western communities as authoritative, vital, contributing members of "truth" to society – or vice versa – because of extended investigation of place-based questions; Australian and U.S. educational community members (teachers and students) could gain mutual insights into how respective groups value time and leisure.

Combining Eastern and Western ontological perspectives using IBL instills value for multiple ways of living and learning. Teachers integrating

problem and place-based IBL contextualize knowledge by using primary sources and cross-cultural texts to develop eco-literacy, thus engaging and making learning personally relevant. IBL teachers connect learners to immediate and extended human communities, showing how local issues are globally interdependent.

Social justice icon Paulo Freire influenced teachers well beyond Brazil by using critical pedagogy. He encouraged teachers (1998) to interrogate assumptions about solutions to social problems. Consequently, he impacted global educational communities by actualizing participatory, communal IBL methods. Those impacted by problems in their places reprioritized how or whose knowledge is (or should be) viewed as more authoritative than others' – especially when viewed against institutional, historical, or collective measurements of what is authentic, valid, or good. Martin (2010) likewise showed how two science educators and students in Hawai'i needed to reflect on theories of decolonization and reinhabitation of shared places and spaces to deconstruct historical legacies or reconstruct more co-habitable places in harmony with the earth and one another in a culturally respectful manner (Gruenewald, 2003). In some traditional societies, subsuming one's rights for the "good of the order" may be seen as historically (or presently) relevant – even desirable – for individual, environmental, and societal sustainability. Problem and place-based IBL contrasted and highlighted this powerful key lesson.

For Western individualists, such IBL outcomes may cause discomfort. Exploring Eastern professional educators' "saving face" values may cause debate about whether individuals should use limited resources, especially if students' proposed solutions to problems in place-based IBL conflict with shared community resource patterns. Skillful IBL teachers welcome these dialogs – as places contextualize problems and help to critically inform or nuance student arguments; yet, pressure to quantify learning outcomes (especially if correct responses are privileged by standardized assessments) may conflict with tasks that require commitment to methods of teaching and assessing critical thinking. IBL processes may even discourage some teachers. Proponents will recall, ironically, the exchange Dewey purportedly had with children about the center of the earth (Bloom et al., 1956, p. 29).

While successful IBL processes and assessment strategies extend beyond the scope of this discussion, one method recommended for collaborative problem and place-based learning is participatory action research (Chevalier & Buckles, 2013). Traditional objective and subjective tools (see Buxton & Provenzo, 2012, pp. 14–19) can document IBL processes

and outcomes. Needs assessments, diagnostic activities, concept maps, content quizzes, journal entries, interviews, and focus group discussions are legitimate pre-evaluative, formative, and summative tools. Technology increasingly serves to link and record educational communities' IBL activities.

STRENGTHS AND WEAKNESSES OF IBL: TWO CASE STUDIES

Here, two case studies illustrate how teachers could more effectively implement core components of international problem and place-based IBL. Ideally, teachers would focus learners on critical questions that reflect individual *and* societal concern. International IBL would identify common problems in different places and contextualize learning to create transnational learning, collaboratively, with students and teachers from inside classrooms and populations outside in their home communities co-defining and reflecting upon learning processes, mutually considering and how language, literature, human and technology resources, service, and assessment will facilitate learning goals.

At two public higher education institutions in rural New York State, teachers experimented by implementing core IBL elements to varying degrees in an English as a Second Language (ESL) and South Africa (S.A.) Study Abroad program. The result was contrasting learner outcomes. What follows is a description of each program, followed by international IBL program components compared to the learner outcomes. Recommendations follow. By exposing the trajectory of teachers who did explore implementing IBL, it is hoped others may reflect on and assess the strengths and weaknesses of their own developmental, problem, and place-based inquiry processes.

Case 1: Russian ESL Program

Three cohorts of 10–15 Russian-speaking undergraduate and graduate Economics students were involved in intensive, summer ESL programs. They sought to improve literacy skills and U.S. cultural knowledge. An experienced educator had limited technology available to assess individual students prior to arrival to determine language needs or learning goals. A

curriculum designed with experiential classes utilized half-day campus instruction, followed by afternoon and evening field-based outings, based on administrative program goals. Upon arrival, students were queried about interests but most could not define IBL questions, due to lack of sufficient contextual information.

To contrast Russian and U.S. economic systems, prepare for thematic, place-based field experiences, and strengthen language acquisition, students read *The Giver* (Lowry, 1993). During the ESL class, they honed business, grammar, and composition skills. Printed, web-based, and oral information supplemented off-campus resources. Instruction highlighted small, local cottage industries such as soap factories, chocolate shops, and fishing businesses that strategically solved economic obstacles presented by the area's remoteness. These were chosen to reinforce students' academic foci; economic issues explored included North Country and Adirondack historic, cultural, social, and agricultural communities (logging, local artisans, Amish, and tourist). Visits to local businesses, government offices, and museums, along with excursions to New York City, Niagara Falls, and other urban areas extended traditional classroom content.

Students researched, wrote, and gave oral reports on assigned topics. The Russians' ability to build and sustain relationships with hosts or apply language skills using IBL was minimal. They arrived, read, toured, listened, talked, wrote, and left – largely as a cohort, isolated and, although formal interactions with community groups (e.g., with Rotary Club volunteers) did occur, they were mainly teacher-initiated or directed. Interactions with high school students studying on campus were strictly managed, due to age differences. A Russian economics professor reinforced seminar discussions; guest speakers (including by a local Russian volunteer) augmented background readings. Nevertheless, comprehension and skill gaps remained as some text vocabulary was too advanced. A number of factors impeded students' ability to raise pertinent questions, test observations, or convey conclusions about economic hypotheses they made. What students discovered about problems in the United States and transferred to their home context was difficult to garner. Subjective and objective assessments revealed language and content growth, but time and circumstances did not allow substantive demonstration of connections. Students completed assignments and projects, but no formal grades were recorded on transcripts. Instructor narratives and certificates of achievement were provided. Students did not self-reflect formally; they did complete instructor and program evaluations.

Case 2: South Africa Study Abroad Program

At another university, two U.S. and South African colleagues co-designed a Study Abroad program. Five students enrolled in a pre-departure course covering geography, history, policies, and problems that existed in both contexts. Comparative curricula focused on the question: How do formal and informal educators contribute to or obstruct social change? Instructors facilitated IBL about how race and gender, protest music, and sports were used to grant or block access in Civil Rights and Apartheid movements. Using *Knowledge in the Blood* (Jansen, 2009), students deliberated formal and informal education systems and reflected, individually and cooperatively, on learning using critical incident methodology (Angelides, 2001) in private and group journals.

Prior to departure, students developed personal learning goals (Montrose, 2002) setting the trajectory for individual and collective research. Faculty negotiated service-learning objectives with community providers (in a township teaching English to school children and in an adjacent garden). On-site, students immersed themselves at historical sites, visiting with community educators, and, in daily reflective debriefings, contrasted social change processes in the U.S. and S.A. At school, service swirled around interactions with stakeholders. Mentor teachers who spoke multiple languages (including English) translated Xhosa so U.S. participants' language limitations with children were ameliorated; collaborative endeavors built moderate interdependency, as U.S. participants relied on S.A. hosts to gain knowledge about insider perspectives.

Instructors used technology intensively – to prepare students (Moodle), minimally while abroad, and upon reentry. Ample access to print, web-based, and human resources (e.g., film, on-line, SKYPE and web pals) enabled students and the group to contextualize IBL. Fair trade providers arranged mini-lectures, visitations, and tours with non-governmental organizations, universities, commercial providers, and other experts at businesses, museums, government and policy-making, historic, and religious sites. Each perspective brought curriculum “to life.” Even when accompanying faculty lacked specific topical knowledge on-site, students' expanding experiential bases (i.e., connected to their U.S. educational frameworks) allowed the group deeper understanding. IBL was strengthened because hosts' knowledge was indispensable to iterative learning processes, fueling and molding synergetic conceptual development. Tourist events were minimal, interspersed throughout, and viewed as non-essential; this was made explicit to students, as it would not contribute significantly to IBL.

Formal assessment occurred throughout the program – individually, collectively, formally, and informally. Students’ initial intra-cultural self-assessments allowed instructors to assess, develop, and gauge group curricular baseline needs formative and summative affective growth. Learning contracts guided individuals’ research project. Common assignments included individual and group journal entries, seminar participation, research paper, and self- and faculty/program evaluations. Oral, mid-term and final group reflection sessions were held, as were individual debriefings. A university Registrar recorded formal grades (six credits) on transcripts. Faculty met regularly to collaboratively discuss individuals, procedures, and program outcomes.

IBL Outcomes

Dewey believed humans should apply IBL and resultant knowledge to scientific and social problems: “Publics are in effect both democratic communities and epistemic communities, producing knowledge that helps individuals adapt and make more meaningful worlds for themselves in accordance with share needs forged by shared circumstances” (Cochran, 2010, p. 326). Instructors in the preceding cases attempted to meet Dewey IBL ideals. The ESL instructor hoped Russian students could apply vocabulary and knowledge gained from U.S. experiences to an economics disciplinary context; likewise, U.S. instructors designing the South African comparative course advanced students’ reflections on both contexts to show educators’ contributions or obstructions to social change. College campuses were sites of inquiry, but what became critical to learner outcomes appears to have been also dependent on the degree of focus on problem and place-based IBL facilitated by pre-departure preparation, language functionality, type of literature used, assessments and student accountability, and community involvement in facilitating learning goals. As these elements materialized, IBL approaches lead to either enhanced or missed opportunities to maximize students’ content and skill development. Naturally, outcomes differed (see Table 1).

Based on these two international study abroad cases, it is recommended that those interested in maximizing educational outcomes by using problem and place-based IBL: involve students in defining learning goals; address language skill proficiency needs; select comparative literature centering on core problems under study; leverage human and technology resources to

Table 1. A Summary of Two International IBL Outcomes.

International Problem and Place-Based IBL Components	Case 1: Russian ESL Program Outcomes	Case 2: South Africa Study Abroad Program Outcomes
<i>Learning goals</i>	<ul style="list-style-type: none"> • Economics focus • No defined IBL question(s) • Minimal student involvement identifying learning goal • Administrators and faculty designed curriculum • Minimal host community involvement • Little interdependence 	<ul style="list-style-type: none"> • Social change focus • IBL question(s) defined during pre-departure • Students identified independent learning goals; contributed to group learning goals • Faculty and community hosts co-defined and designed curriculum • Moderate level of interdependence nurtured
<i>Language skills</i>	<ul style="list-style-type: none"> • Students' first language Russian; minimal proficiency in English, required • Language skills not pre-assessed; assessed subjectively and objectively throughout; daily formal and informal language lessons received • Faculty proficiency in learner language none to low • Language skills became curriculum impediment 	<ul style="list-style-type: none"> • Students' first language English; no second functional language required • No assessment required; rudimentary Xhosa language lessons delivered • One faculty member bilingual; one faculty member not; hosts bilingual • Language not serious curriculum impediment; faculty and hosts' translation skills enhanced curriculum/ IBL outcomes
<i>Literature</i>	<ul style="list-style-type: none"> • Used <i>The Giver</i> • Guided reading level materials too advanced • Moderate contribution to content and limited to language skill acquisition 	<ul style="list-style-type: none"> • Used <i>Knowledge in the Blood</i> • Guided reading level very appropriate • Significant contribution to content and limited to language skill acquisition
<i>Human/technology resources</i>	<ul style="list-style-type: none"> • Limited availability of diverse resources in pre-arrival or on-site phases; no interactions in reentry phase 	<ul style="list-style-type: none"> • Extensive availability of diverse resources in pre-departure phase; extensive interactions in on-site phase;

Table 1. (Continued)

International Problem and Place-Based IBL Components	Case 1: Russian ESL Program Outcomes	Case 2: South Africa Study Abroad Program Outcomes
<ul style="list-style-type: none"> • Contribution to learning outcomes during learning phases 	<ul style="list-style-type: none"> • Null or adverse contributions to learning outcomes in first and last phases; limited contribution to IBL in on-site phase 	<ul style="list-style-type: none"> • supportive interactions in reentry phases • Positive contributions to learning outcomes throughout all phases
<i>Assessments</i>		
<ul style="list-style-type: none"> • Distribution during program (baseline, formative, summative) • Subjective and objective • Documented formally 	<ul style="list-style-type: none"> • No pre-assessments; informal formative and limited summative assessments • Subjective and objective • Undocumented on transcripts 	<ul style="list-style-type: none"> • Formal and informal assessments throughout all phases • Subjective and objective • Documented on transcripts
<i>Community interactions</i>		
<ul style="list-style-type: none"> • Type and extent • Contributions to learning goals • Sustainability 	<ul style="list-style-type: none"> • Host interactions limited by age and purpose • Group isolation contributed moderately to learning goals • Relatively unsustainable 	<ul style="list-style-type: none"> • Purposefully encouraged; unlimited by age • Community engagement on short-term service projects contributed significantly to learning goals • Moderately sustainable
<i>Service learning components</i>		
<ul style="list-style-type: none"> • Extent of community involvement to meet learning goals • Type • Contribution to IBL 	<ul style="list-style-type: none"> • No service interactions with host community • Tourist-based, except when directed by instructor • Limited contributions to IBL 	<ul style="list-style-type: none"> • Fair trade providers facilitated host community service project (garden) arrangements; engaged academicians and non-formal partners (elders, non-governmental organizers) • Intensive • Significant contribution to IBL

sustain student and program partnerships; administer subjective and objective assessments prior to, throughout and at the conclusion of the program; activate community interactions to enhance learning goals; and, include service elements to expand students' and faculty's depth and complexity of understanding about core IBL issues.

CONCLUSION

This chapter described how John Dewey, three Progressive educators and practitioners approach IBL: nurturing high student motivation; sustaining students' needs while engaging relationships; and, engendering excitement in discovery learning, in spite of unpredictable outcomes. Students who find responsibility and freedom to learn within open contexts acknowledge learning from others, test knowledge by practical means, and engender creative capacities. Meaningful personal, life-long IBL contributes positively to social change.

John Dewey reflected continuously on how life experiences shape the fundamental desire to learn. Noddings (2013), a century later, suggests that democracy “is perpetually a cooperative work under construction. So is education” (p. 157). Dewey described inquiry as the core process behind thinking:

To “learn from experience” is to make a backward and forward connection between what we do to things and what we enjoy or suffer from things in consequence. Under such conditions, doing becomes a trying; an experiment with the world to find out what it is like; the undergoing becomes instruction – discovery of the connection of things (1916, pp. 164–170)

While IBL encourages both objectivity and subjectivity, IBL nevertheless faces perpetual impediments and resistance. Some possess fear, defense, or mistrust of its processes; launch curricula where students may not engage in problems in places or contexts that are well-researched or designed; and, engage with limited prior knowledge, skills, or training. Others find students dependent on external learning structures, versus reliant upon internal loci of control; encounter inherent lack of strong support systems for IBL; or, face disengagement – which can be ultimately detrimental to all involved. Those interested in delivering or arguing against eliminating IBL from the core curriculum may want to familiarize themselves with discussions about how achievement gaps have been closed, student learning outcomes increased, and problem and place-based IBL sustained by reviewing case studies and successful curricular models (Edwardsdottir, 2013; Sobel, 2008).

IBL case studies illustrated here show teachers and learners entwined in practical, international problem and place-based IBL communities. Admittedly, teachers' skills, curricular designs, functionality, and challenges when adopting IBL potentially affect whether ideal democratic classrooms exist or not, as Dewey and Noddings envisioned. However, attempts

to reduce hierarchal differentials and shift traditional authority and power between those who know to those who discover lead to more questions that penetrate reflective practice – including students’ individual challenges, public taxpayer stakeholders’ concerns, and accrediting agencies’ guidelines. Appropriate assessment aligning with curriculum goals and instruction appears key; applying multiple objective and subjective measures, timing them before, during and after, and involving constituents in reflection on products and processes is critical in IBL.

Dewey acknowledged individuals as unique sites for inquiry, offering perspectives on world issues from their own “place.” While contesting and connecting educational communities, those who feel the need to know, control, or approve of exactly where, when, and how learning is going to occur or be accounted for may want to remind themselves that Dewey ascribed what is still a universal learning goal – ultimately, that it should be accessible to all.

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FOLKNOGRAPHY: INQUIRY-BASED LEARNING AND QUALITATIVE RESEARCH

David M. Lucas and Charles W. Jarrett

ABSTRACT

The authors introduce an innovative and practical approach for conducting, directing, and teaching qualitative research through inquiry-based learning at the undergraduate level. Folknography is a qualitative research methodology that allows the undergraduate to successfully learn the academic concepts and guidelines required for participating in field investigations. This methodology relies heavily on the investigative techniques associated with ethnography, phenomenology, and sociology. Data collection techniques are specifically designed to reveal thick descriptions that represent the subjective attitudes, perspectives, and interpretations of the folk selected for investigation. The main objective of study is to gather qualitative data that allows for the emergence of a collective voice assumed to be representative of the targeted population. This chapter identifies three separate research projects in which undergraduate students immersed themselves in a specific setting; and, from that perspective, made important discoveries that expanded their knowledge of socio-cultural phenomena. Folknography is presented in this

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chapter as parallel actions; first, as a method of teaching undergraduates research; and, second as a system of data collection specific to qualitative investigations.

INTRODUCTION

Inquiry-based learning has been a powerful educational tool for generations. As an academic process, inquiry-based learning has facilitated learning by forming and exploring carefully constructed investigative probes. The roots of inquiry-based learning appear within the pedagogical theories of academicians like John Dewey, Jean Piaget, and Jerome Bruner; and, inquiry-based learning extends to the ancient Greek philosophers Socrates, Plato, and Aristotle (Benson, 2000; Dariush, 2012). Aristotle's teaching style relied on intriguing questions and critiques that challenged the intellect of his students. Jenkins (2004, p. 29) detailed the benefits of inquiry-based learning stating, "there is clear evidence from a range of studies in different types of institutions of students valuing learning in a research-based environment." Collaborative and inquiry-based teaching styles accentuate learning by emphasizing "critical thinking" and "analytical skills." Students have the benefit of working in teams, resolving more complex problems, and applying knowledge from a particular situation to a multiplicity of related circumstances. However, inquiry-based learning does require modifications in curriculum, instruction, teaching philosophy, and assessment practices that require flexibility (Darling-Hammond et al., 2008).

The primary theme guiding the development of this chapter rests on the premise that the undergraduate gains noticeable, observable benefits from inquiry-based explorations; and, in terms of the quality of the learning experience, students express deeper understanding after participating in inquiry-based studies (Healey & Roberts, 2004). "Different scientific disciplines prefer method-specific guidelines of investigation and standards of evidence" (Edelson, Gordin, & Pea, 1999, pp. 393–394). Communication instructors choose research methodologies designed to allow the student to learn valuable skills in the discipline of communication, guidelines of research in the field, and the techniques of quantitative or qualitative investigation. "The term 'inquiry-based learning' generally refers to student-centered teaching and learning whereby students raise questions, explore social situations, and develop their own ideas about possible solutions" (Maaß & Artigue, 2013, p. 780). Healey (2005) and Griffiths (2004) suggest inquiry-based teaching and learning share certain qualifying characteristics.

- *Research-led*: Students focus on research findings; the curriculum content is guided by the research topic, and information transmission serves as the teaching technique.
- *Research-oriented*: Students experience the research process while the curriculum presents learning as knowledge and what is achieved. In this case, research presents the learning base.
- *Research-based*: Students learn as equal researchers in a fully designed research project; the curriculum is centered on inquiry-based activities, and the division of roles between teacher and learner is blurred. Students become colleagues and the teacher becomes facilitator.

Inquiry-based learning encourages students to actively construct their own knowledge base, bring their personal ideas into the discussion, identify concepts important to the learning experience, and make changes in their attitudes and behaviors (Kuhlthau, Maniotes, & Caspari, 2007). Central to the success of inquiry-based teaching and learning is the engagement of undergraduates, especially the collaboration of the student in formulating, designing, and preparing questions for investigation. Maaß and Artigue (2013) contend that, “Inquiry is a multifaceted activity that includes observations; questions and probes; an appropriate literature review; systematic investigation; experimental evidence; tools for gathering, analyzing, and interpreting data; and explanations, predictions, and the communication of study findings.” Inquiry-based learning allows students to choose their own heuristic devices, explore, and compare their own assumptions, use critical and logical thinking, and consider alternative explanations.

The National Research Council (2000, p. 27) suggests that the following features should be considered when conceptualizing inquiry-based learning projects: “students should create scientifically oriented questions; students should prioritize evidence when responding to questions; students should formulate explanations based on evidence; students should connect explanations to scientific knowledge; and students should justify explanations according to scientific guidelines.” Inquiry-based learning depends on communication skills and appropriate questions.

METHODOLOGICAL CONSIDERATIONS

Studies of human behavior have emerged from two intellectual traditions, each with a different perspective on the nature and style of social research.

Positivism, the first intellectual tradition, contends sense perceptions are the only admissible basis of human knowledge and precise thought (Benton, 1977; Giddens, 1974; Patton, 2002). Positivism assumes social phenomena exist not only in the minds of individuals, but also as an objective reality. The fact that a social phenomenon may be viewed differently by subjects does not negate its existence, nor the application of scientific principles as a valid means of investigation (Benton, 1977; Denzin & Lincoln, 2000; Giddens, 1974; Sullivan, 1992). Patton (2002) clarifies the *objective* nature of positivism saying, “A positivist seeks the facts or causes of social phenomena apart from the subjective states of individuals, using quantitative and measure-oriented methods to test deductive generalizations” (p. 69).

Phenomenology, a second intellectual tradition, questions the premise that social reality can be determined using empirical data alone. The phenomenological perspective views social phenomena as constituting not one, but a set of multiple realities requiring subjective methods of inquiry (Berger & Luckmann, 1966; Denzin & Lincoln, 2000; Patton, 2002; Schutz, 1962). The phenomenologist is committed to understanding social phenomena from the actor’s subjective perspective. Thomas and Swaine (1928) clarify the *subjective* nature of phenomenology with their classic statement, “It is not important whether an interpretation is correct – if men define situations as real, they are real in their consequences” (p. 572). Thomas and Swaine (1928) suggest social reality is a matter of human perspectives, that people construct reality from a subjective point of view.

Weber (1964) believed there was no absolutely objective scientific analysis of social phenomena. Weber notes, “We can only understand human action by using methods of investigation requiring ‘*verstehen*,’ or ‘*empathetic understanding*” (p. 29). Weber’s definition of sociological inquiry aimed for “an interpretative understanding of social behavior by penetration into the subjective meanings that actors attach to their own behavior, as well as to the behavior of others” (Cosser, 1977, p. 220).

Ethnographic research frequently utilizes phenomenological tools to uncover the actor’s orientations toward social reality (Costelloe, 1996; Fielding, 1988; Patton, 2002). Ethnography is defined as the work of describing cultures, with a particular goal of understanding another way of life from a “*native point of view*” (Berg, 1998; Patton, 2002). Ethnographers produce forms of cultural description by placing themselves in the midst of a specific population, and from this unique vantage point, interpreting social reality from an empathetic perspective (Berg, 1998; Fetterman, 1998; Goodall, 2000).

The authors present in this chapter a fresh perspective in qualitative research known as “Folknography,” a methodology that combines the principles of ethnographic, sociological, and phenomenological research. Folknography offers systematic guidelines for conducting qualitative research and a unique method of data collection by a researcher (or team of researchers) interested in revealing the collective *voice* of the *folk* targeted for investigation (Lucas, 2006a).

Folknography may be understood by carefully dissecting the word. The term *folk* comes from the German word *volk*. The meaning of *volk* can be stated as, “the great proportion of the members of a people that determines the group character and that tends to preserve its characteristic form of civilization and customs, arts and crafts, legends, traditions, and superstitions from generation to generation” (Merriam-Webster Online, n.d.). Accordingly, the syllable “no” derives from an abbreviated form of the Greek word “gnosis,” which means literally, knowledge (Merriam-Webster Online, n.d.). Finally, the word, “graphy” refers to “a way of writing or showing something” (Merriam-Webster Online, n.d.). Collectively, the actual word *Folknography* then translates to recording the knowledge of a particular “*folk*” who share common socio-cultural and historical traditions. *Folknographers* seek deeply layered inquiry into the perceptions, attitudes, and interpretations of social and cultural groups in order to learn the emerging collective *voice* of that particular population. *Folknographers* make certain assumptions about knowledge and the process of human communication:

- the folk of social and cultural groups have valuable knowledge to share,
- the collective *voice* of socio-cultural groups emerge through communication,
- empowered *folk* often have a platform for sharing knowledge,
- disenfranchised *folk* may not have a platform for sharing knowledge,
- *folknographers* typically seek the *voice* of disenfranchised and marginalized groups, and
- *folknographers* investigate the collective *voice* of selected *folk* for the purpose of resolving problems as well as for accumulating knowledge for the sake of knowledge.

Folknography offers a systematic methodology for collecting data efficiently, within relatively short periods of time, and at reasonable expense to the institution or funding source. The objective of Folknography is to investigate the perceptions, attitudes, and meaningful interpretations of the *folk* of a particular social or cultural group. The researcher (or research team) records data for the purpose of describing multiple layers of social

and cultural life. Folknographers produce forms of cultural description by placing themselves in the midst of specific *folk*, and from this vantage point, attempting to describe social reality from the subjective perspective of that population. A comprehensive description of the guidelines required for applying this unique and innovative research methodology is presented in this section:

Identify the Folk and the Grand Tour Question: Researchers should identify the “*folk*” selected for study and the “*grand tour question*,” a reference to the central question that contains the main theme of the field investigation. Typically, the grand tour question is generated as a result of some observation, notion, artifact, or phenomenon observed by the researcher that begs further investigation in the field. The researcher may begin alone, in partnership, or with an eclectic research team consisting of colleagues, professionals from the private sector, or a collection of undergraduates. Project directors begin by familiarizing their colleagues and participants during a series of pre-training sessions that concentrate on specific study objectives and the appropriate technologies that will be required for collecting qualitative data in a systematic manner. Project directors have the responsibility of establishing a research/writing lab in the field as a headquarters for participants.

Field Research Lab: Researchers prepare in advance for establishing a “field research lab,” a requirement for coordinating the activities of participants in the investigation. Participants will be trained, debriefed, and engaged in the standard and unique methods available for recording observations, interviews, narratives, artistic observations, focus group sessions, and plenary gatherings. Researchers must draft survey questions and develop probes and/or follow-up questions important effective data collection. Survey questions and probes become relevant for investigating thick descriptions and deeply layered inquiry into the perceptions, attitudes, and interpretations of the *folk* selected for study. Questions and probes are “field tested” for clarity, coherency, transition, functionality, brevity, and for applicability in revealing data about the central theme of study.

Feed Forward: Researchers create a design for the official web site and/or face-book page to accompany the investigation. This stage in the process allows for a fresh and innovative concept called “*feed forward*.” The advent of the Internet allows for the posting of information and observations daily. Researchers, team participants, and the subjects of study may comment, critique, or provide data that clarifies and enhances objectives. Technological innovations allow for a myriad of standard or new data collection techniques including interview information, focus group data, personal narratives, naturalistic observations, content analysis, digital photos, videos, sound recordings, astute and artistic observations, and data from plenary gatherings, any of which may be posted to the Internet.

Data Collection: Researchers may collect data through a multiplicity of subjective methods. Narrative theory suggests that people (*folk*) relate, frame, and understand their world through the act of recounting stories. Humans tend to relate life and their culture through the story (Herman, Phelan, Rabinowitz, Richardson, & Warhol, 2012). Researchers seek the story assumed to be inherent in the perceptions, attitudes, and

meaningful interpretations of the *folk* under investigation. The collective *voice* of a particular socio-cultural group emerges through the process of communication. Researchers may now collect data using innovative techniques including personal interviews, focus group sessions, personal narratives, naturalistic observations, content analysis, digital photos, videos, sound recordings, astute observations, artistic observations, data from plenary gatherings in the community like public rituals and ceremonies.

Interviews: Researchers enter the field with specific guidelines for exploring the perceptions, attitudes, and meaningful interpretations of the *folk* selected for study. Personal interviews play an important role the emergence of the data required for revealing the collective *voice* of the people selected for investigation. Personal interviews are an effective way to learn the attitudes, perceptions, and meaningful interpretations that eventually reveal the collective *voice* to the *folk* selected for investigation.

Focus Groups: Researchers understand that focus groups allow participants to discuss the ramifications of thematic questions pertaining to the objectives of investigation. Accounts from participants may stimulate responsive commentary in a synergistic manner, and this multi-layered method of investigation is a practical technique of gathering data. Focus groups usually consist of one or more of the researchers who facilitate discussions with group members about the grand tour question and central probes. Focus groups can produce deliberations, dialogues, synergistic interactions, perceptions, attitudes, and interpretations about the socio-cultural phenomena under investigation.

Narratives: Researchers understand that personal narratives provide a glimpse of the actual experience and interaction that takes place between the researcher and the respondent. Human beings define their existence through the life-long process of communicating stories. Narratives should be written in the present tense and with an active voice. Effective narratives should transcend time and transport readers to the actual moment that respondents recount their stories.

Naturalistic Observation: Researchers use naturalistic observation as a type of descriptive method for investigating behavior in its natural environment. Settings for naturalistic observation might include people gathered in plazas, court yards, centers of worship, parades, weddings, funerals, and various civic celebrations, rituals, and ceremonies.

Content Analysis: Researchers may seize opportunities to read, decipher, translate, and study documents, materials, images, recordings, cultural artifacts, and writings from the targeted population (the *folk* under study). Content analysis provides an inside perspective on statements offered by the *folk* selected for investigation, and this type of analysis offers a self-described view of the socio-cultural history of the *folk* under investigation.

Astute Observation: Researchers know observations of people, places, and things are essential for identifying the established trends, traditions, behaviors, communication practices, and socio-cultural patterns of behavior of the *folk* under investigation. Observations that are astute, intuitive, perceptive, and insightful are assumed to be potentially related to the grand tour question and relevant to the perceptions, attitudes, and meaningful interpretations of folk.

Artistic Observation: Researchers assume that an eclectic team of investigators in the field would normally gravitate toward observations that have some meaning to them as individuals. Cultural artifacts, folklore, music, cuisine, and architecture may stimulate different reactions from individual researchers. Folknographers assume that artistic expressions are the way the *folk* of a particular group reveals their “inner selves” to the external world.

Plenary Session: Researchers understand that large gatherings, such as town meetings, civic ceremonies, and community celebrations often provide a platform for recording public insights, perceptions, interpretations, and the stories emanating from such public venues. Investigators may observe certain *folk* speaking and “tagging off” from storylines that others recount. Respondents formulate consensus concerning topics that affect them most, producing dialogue that might not emerge from any other data collection technique. Plenary sessions often generate lively discussions that explore specific issues related to the grand tour question. Plenary sessions introduce opportunities for observing the interaction of couples, families, opinion leaders, and community members in public settings.

Triangulation of Data: Researchers expect findings to be reliable, credible, and valid, especially as this leads to an accurate description of the perceptions, attitudes, and interpretations of the folk under investigation. Triangulation of the data is a method of collecting information often used by qualitative researchers to check and establish validity in their study findings. By analyzing a research question from multiple data collection methods, the researcher gains confidence in the reliability and accuracy of study findings.

Folknographers engage respondents in the field and initially investigate the questions posed through interviews, focus groups, and other subjective methods used for data collection. Respondents recount their perceptions, attitudes, and interpretations as the researcher listens, makes notes, records responses (digitally or otherwise), and applies astute observations for reference with colleagues at the field research lab later that day. The field research lab offers researchers a change to engage in descriptive narratives, quotes, thoughts, and observations about the previously interviewed respondents. Folknographers craft the descriptive narrative assumed to be the emerging collective *voice* of the population. By delivering a myriad of qualitative data through carefully constructed sources, observations, short stories, poems, digital photos, videos, interviews, and written accounts that are cast in the present tense and with an active voice, the process of collaboration becomes focused on the concept of inquiry-based learning. “When narratives are collected in person, the researcher can attend to who is telling the story and take those characteristics and experiences into consideration during analysis” (Keyton, 2014, p. 323).

Folknographers gather in planned debriefing sessions on a daily basis to discuss the data collection process. The debriefing process allows

researchers to reflect on the investigative process which provides illumination, clarification, and identification of emergent research themes in a systematic fashion. The daily debriefings allow the project leader opportunities to identify problems in the procedure, process, and logistics of investigation. The debriefing process becomes vital to obtaining valuable insights on the study objectives, coordination of participant activities, and for identifying problems in procedure that might otherwise be undetected. The authors present three studies in the next section that will demonstrate the pedagogical and practical applications of adopting this uniquely innovative research methodology.

FOLKNOGRAPHY IN ACTION

Connecting with the Soul of a Community: An Interactive Study of Gullah Culture

The Gullahs are descendants of enslaved people living in the Sea Islands of South Carolina, Georgia, and northern Florida. As a result of their isolation on islands, the Gullahs have been able to maintain their culture as a distinctive African American heritage. However, this unique culture may be disappearing with the construction of bridges from mainland areas to the Sea Islands. The bridges have introduced land development increasingly directed toward Gullah owned properties. The Gullahs are a rural population with strong economic and emotional ties to their land, and the loss of land ownership threatens the very existence of Gullah language and culture.

Folknography was applied as a research methodology to learn the perspectives, attitudes, and interpretations of Gullah *folk* on the impact of economic development on their culture and language. Field research confirmed the fact that economic development in the Sea Islands has affected traditional Gullah lifestyles in meaningful ways. Gullah “spiritual life” operates as a central ethos of this indigenous population, but the introduction of bridges connecting the barrier islands to the mainland has brought increasing threats to this traditional population. Land development has combined with an ever-increasing scale of interaction, assimilation, and ecotourism to threaten traditional lifestyles, religious practices, and the preservation of their unique culture and language. Emory Campbell, former director of the internationally known educational

landmark Penn Center, contends the loss of land ownership places a burden on Gullah leaders to implement effective strategies for preserving their language and culture (Jarrett & Lucas, 2002).

The authors led a team of eight undergraduates from the University of South Carolina – Beaufort into the field to gather data on the attitudes, perceptions, and interpretations of Gullahs residing on St. Helena Island, Daufuskie Island, and Hilton Head Island, South Carolina. Students participated by reviewing content analysis, conducting interviews, observing focus group sessions, plenary gatherings, and naturalistic observations before writing essays, papers, and giving oral classroom reports. The research team concluded the indigenous population (Gullahs) faced significant changes brought on by the bridges that connected the islands to the mainland, changes that included the erosion of traditional values, social norms, and religious ceremonies once practiced by their ancestors. Students wrote passionately about the threats posed by economic development, some stating that the Gullah language was (in fact) an oral tradition that serves the purpose of passing along the history and ancient knowledge of their African ancestors. Students understood from being immersed in the culture the important role played by cuisine, folklore, and artistic expression as part of the Gullah heritage. Land development and the expanding tourist industry are rapidly eliminating the natural materials required for cooking, making indigenous musical instruments, and the thousand year-old tradition of weaving “sweetgrass baskets.” Students enthusiastically stated that the research experience enlightened them to an indigenous culture (Gullah) that had been to that point a mystery in their lives.

The Perceptions of Math Education in the Midwest

Folkography was applied as a methodology to investigate the perceptions of math and math education in a small rural Midwestern community. The target population consisted of people residing within the community and county given the pseudonym *Midville* for the purposes of investigation. Jamie Fugitt, a faculty member at the University of Tennessee, and the author accompanied 14 undergraduate students from Ohio University into a community in rural Illinois to gather data during May, 2006 (Lucas & Fugitt, 2009). The authors were interested in exploring the perceptions, attitudes, and meaningful interpretations of the community *folk* on three central questions:

1. What are the perceptions of the *folk* concerning math and math education?
2. What is the perceived quality of math and math education in the school districts under consideration?
3. What is the impact of math and math education on the future success of students upon graduation?

The residents of *Midville* believed that a foundation of math education prepares a young person for success in college. The *folk* believed that advanced education offers youth a better and successful future. Math was viewed by the respondents as the key for gaining logical skills, better job opportunities, and greater leverage in the world of academic competition. Respondents believed that math skills were important in developing powerful careers for students.

Study findings revealed that many adults view schools as failing to offer effective math education. Respondents believed that there was too much emphasis on technology and not enough on arithmetic. Respondents did not fear the introduction of technology (or technical tools) into the classroom, but rather perceived that the emphasis on technology superseded the emphasis upon mental and computational skills in the classroom. Respondents believed that instructors of math were ill-tempered and created fear and negative attitudes in many of the students. Pressures, criticism, and negative behavior apparently had been exhibited by the majority of the math instructors in this particular school system.

Students generated a multiplicity of narratives concerning math education in their community and posted this data to the project web site. Thus, the concept of *feed forward* became an important source of relevant information and an opportunity to dialogue with study participants. Digital cameras were used to record the comments of focus group members and participants in plenary sessions dealing with issues of math and math education (Fig. 1). The summation paper resulting from this study was presented by the author to the board of education. *Folknographic* research revealed math students in this study desired more positive, pleasant, considerate, and kind instruction in their classroom environments. The local school board reviewed their math curriculum and teacher classroom management procedures as a result of this folknographic investigation. Participating students learned the value of asking carefully crafted questions. Debriefing sessions played a significant role in re-designing questions that more powerfully prompted responses. Students admitted to maturing in the field through the peer-learning process.

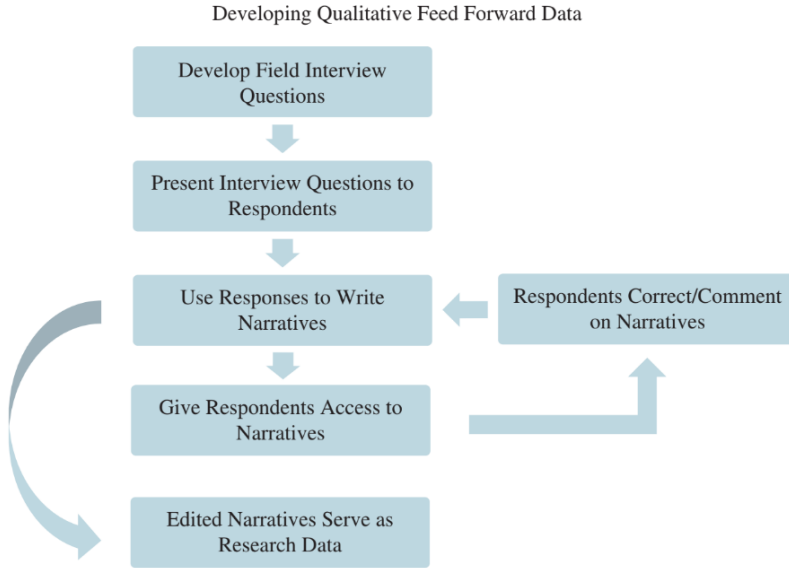


Fig. 1. Process for Engaging *Feed Forward* to Create Inquiry-Based Narratives as Qualitative Research Data.

Porter Gap Road: A Microcosm of Appalachia

Researchers had heard of a location in Southern Ohio where, according to folklore, African Americans, Native Americans, and Caucasians had lived together in the same community without the bitter prejudices and discriminations that were occurring in other parts of that region. Discussions among interested colleagues generated a Grand Tour Question, “What was life like here along Porter Gap Road in Lawrence County, Ohio?” The team engaged in numerous interviews, focus groups, and town meetings as data collection techniques. Observations and interviews led the “folkloric team” to another significant discovery; located in the deep forests of that region, refugees from the southern slavery industry had created a hide-away for enslaved Africans in the 1800. This place was known by the local population as a secure haven in the shadows of the deep valley, a stopover and resting place along the Underground Railroad. Leaders in the movement to free slaves had carved out a window in the massive stone face of a rock structure, so

that a watchful eye could be kept in case bounty hunters and their blood hounds were searching for run-a-way slaves. The local people had knowledge of this place, referring to the edifice as Window Rock. The author, a tenured professor in communication, led undergraduate students into the field to apply the qualitative research methodology known as *Folknography*. This study revealed historical notes of importance for the regional population as well as scholars interested in the Underground Railroad.

Folknographers worked in teams to interview (217) respondents, traced the sojourners' paths along the Underground Railroad, and recorded digital photos, hours of video tape, personal narratives, historical documents, property deeds, marriage and death certificates, geographical maps, and made astute and artistic observations within Blackfork, Polk Patch, and the wooded trails around Porter Gap that led directly to the massive rock formation Window Rock. *Folknography* provided a means whereby this sacred structure was revealed as authentic and as an integral part of the historical movement known as the Underground Railroad in Southeastern Ohio. In this project, the participants uncovered an historical monument significant to the history of the indigenous population in this region (Lucas, 2010).

Undergraduates learned about the possible existence of an African American cemetery near Porter Gap Road. The vague story intrigued the team of students who, after completing their research on Window Rock, decided to investigate the mystery of the long forgotten cemetery. In 1916, owners of the regional coal mines brought African American workers in from Cincinnati to break a strike in the local mines. The Spanish Flu epidemic of 1918 hit Lawrence County particularly hard, killing most of the black miners and their family members (Lavric, 2006). African Americans were buried without caskets or grave markers at a place called Sacred Hill Cemetery. The unmarked burials were soon forgotten and never officially recorded. Undergraduate teams used data collection techniques learned in their field research course to illustrate the importance of their local discovery. Afterwards, high on a ridge overlooking the beautiful mountains of southeastern Ohio, an Ohio University professor of communication and his students obtained a grant for an official historical marker with the name Sacred Hill Cemetery (Hendren, 2006; Lucas, 2006b). What began as a research project became an archeological dig of significant importance for a team of undergraduates applying Folknography (see Table 1).

Table 1. Level of Openness in Scientific Inquiry.

Level	Aim (Is the Aim of the Investigation Given to Students or Is It Open?)	Materials (Do Students Source their Own Materials or are the Materials Provided?)	Method (Is the Method Given or do Students Develop their Own Method?)	Answer (Is the Outcome Known by, or Given to, Students, or is the Outcome Open?)
0	Given	Given	Given	Given
1	Given	Given	Given	Open
2A	Given	Given whole or part	Open or part given	Open
2B	Given	Open	Open	Open
3	Open	Open	Open	Open

CONCLUSION

Folkography offers researchers a fresh methodology for deeply layered inquiry into the perceptions, attitudes, and interpretations of people sharing some common socio-cultural tradition or heritage. Folkography provides the researcher (or team of researchers) an investigative design for seeking the *voice* of the social group targeted for investigation. Folkographers assume that social and cultural groups have valuable knowledge to share, however certain populations may not possess a recognized platform for disseminating information. Folkographers investigate the collective *voice* of the *folk*, or segments of a “grassroots” population that tends to include marginalized and disenfranchised people, often indigenous populations that have not historically had a recognized platform for sharing their knowledge.

Folkography offers a systematic methodology for collecting data efficiently and in relatively short periods of time at reasonable expense to the participating researchers, agencies, or institutions. Folkography uses the notion of inquiry in every conceivable part of the investigative process. Researchers constantly use inquiry-based learning as part and parcel of the comprehensive research process. Folkographers question themselves about their own ethical stance, the judgments made or not made during a field experience, the possibility of research biases, and the motivations for choosing a particular research theme. There is a responsibility for researchers to ask themselves: What observations prompt study? Who does the researcher identify as a suitable subject? When does the researcher investigate? Why does the researcher decide the study is relevant? These are the conceptual questions that must be asked by the folkographer to frame

and develop “thick” description (Geertz, 1973) and through inquiry discover the collective voice of social and cultural groups selected for investigation. Interrogatives of this nature produce the answers that allow folknographers to “give voice” to populations often ignored by mainstream society.

The advent of the Internet has spawned innovative ways for collecting data in the field, particularly the myriad of hand-held devices capable of documenting respondent dialogue and producing action photos from the field. Folknography has been introduced in this chapter as parallel actions; first, as a method of teaching undergraduates research; and, second as a systematic method of gathering data specific to qualitative investigations. Folknography is linked philosophically to inquiry-based learning and ethnographic investigation. Research methodologies have been borrowed from phenomenological and sociological investigation, concepts that question the premise that social reality can be determined using empirical data alone. Phenomenologists argue social phenomena constitutes not one, but a set of multiple realities that require subjective methods of investigation. The authors present a step-by-step process with procedural guidelines for conducting a new and innovative form of qualitative research – *Folknography*.

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PART II
PRACTICES AND STRATEGIES

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RESONANCE-BASED INQUIRY: AN EPISTEMOLOGICAL APPROACH TO INDIAN STUDIES

Nicholas J. Shudak

ABSTRACT

Developed in this chapter are the conceptual underpinnings and practices of an interdisciplinary “Indian Studies” course taught through a unique inquiry-based epistemological approach referred to as resonances. In providing a resource and model for others who teach sensitive and even controversial topics that include the study of other groups of people, this chapter progresses in four stages. Firstly, necessary insight is provided about the course’s unique context within state teacher certification requirements and standards documents. Secondly, the nascent theory of resonances is developed from and then as an alternative to dissonance theory and cultural matching. Thirdly, and continuing the development, practical, and pedagogical applications of resonance-as-inquiry are shared with indebtedness to autoethnography. And lastly, the relative successes and limitations of this particular epistemological approach are discussed phenomenologically.

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INTRODUCTION

At the outset of her chapter introducing small- and large-scale models of inquiry-guided learning, Virginia Lee (Lee, 2012) makes a simple assertion. She states that in recent years around the world, and at the university level, “The power of inquiry as a way of learning has had widespread appeal” (p. 5). For many whose lives are enmeshed in academic domains, “inquiry is part of the distinctive ecology” of campus life (p. 5). At its most basic level, and as the result of following developmental steps, we can consider inquiry as a formalized investigation into a question or problem leading to an evidence-based conclusion.

When the inquiry is discursively rooted, as it is in many of the postpositive social sciences, and is course-based as opposed to lab-based, strict adherence to specific steps or stages of scientific inquiry becomes problematic. “Inquiry” in this regard is more like providing students with intellectual lenses or frameworks – heuristics – for looking at, criticizing, and making sense of the world around them. It is in this sense of the word, and through the heuristic of *resonance* developed in this chapter, that I teach an inquiry-based course.

This chapter develops the conceptual underpinnings and practices of an interdisciplinary “Indian Studies” course taught through a unique inquiry-based epistemological approach that I refer to as *resonances*. The overarching goal is to provide a practical resource and model for others who teach sensitive and even controversial topics that include the study of other groups of people.

The chapter is organized around four topics. The first topic pertains to the course’s overall context. Context in this sense includes a discussion of the historical, demographic, and geographical considerations, which in large part, play an important role in the course’s epistemological approach. Secondly, the course’s description and the conceptual backdrop to the particular inquiry-based approach through *resonances* is developed and elaborated upon. This backdrop, then, helps frame the pedagogical and organizational practices of the course, the third topic. Lastly, findings by way of commentary are offered regarding the relative success of the model put forth.

COURSE CONTEXT: HISTORY, STANDARDS, GEOGRAPHY, DEMOGRAPHY

For better or worse, and as articulated by anthropologist Guy Gibbon, when the world thinks of the Native people of North America, the visage

that comes to mind is that of the head-dressed, horse-backed, “bison-hunting Sioux” (Gibbon, 2003, p. 1) of the Dakotas. Some of the most famous Natives in North America are Sioux. Historically, Red Cloud, Crazy Horse, Sitting Bull, and Black Elk are members.

Moreover, Natives in South Dakota have caught the world’s attention for bringing Native rights, issues of land redress, and sovereignty to the forefront of political discussions. Famous examples of this are the 1973 “takeover” of Wounded Knee and the controversial yet principled stand to refuse money for land. In 1980 the Supreme Court argued in favor of the Sioux and against the US government regarding a nearly 100-year old treaty dispute (*United States v. Sioux Nation of Indians*, 1980). The ruling has resulted in approximately 1 billion dollars sitting in a trust (Young, 2010). The Sioux refuse to collect simply because they want the land, not the money.

There is a darker side. The Pine Ridge Reservation, site of the 1890 massacre at Wounded Knee and the 1973 takeover, was once known as having the highest murder rate per capita in the United States (Perry, 2002), and, is partially located in one of the poorest counties – Shannon – in the United States (Means, 1995). The murder of two FBI agents – Jack Coler and Ronald Williams – on Pine Ridge famously resulted in a trial which found William Kunstler as the defense lawyer and Marlon Brando as a Hollywood advocate. The unfortunate murders resulted in an acquittal of two suspects in one trial, a conviction in another and still no closure for the victims’ families (A&E, October 17, 2000). Hollywood has produced two films – *Incident at Oglala* (Apted, 1992a) and *Thunderheart* (Apted, 1992b) – partially based on the murders.

South Dakota’s geography, most notably the sacred *Paha Sapa*, or Black Hills, brings millions each year to the state. Though originally more than half the state, reservation land now only accounts for roughly 17 percent of the state’s total area. Even at 17 percent, which might seem minor, it is difficult to travel anywhere in the state without traveling through what is colloquially referred to as “Indian Country.” For the millions who travel on I-90 to the Black Hills, on vacation to see the Badlands, Wounded Knee, Mount Rushmore, Crazy Horse, Spearfish Canyon, or for Bike Week, they travel through reservation land. It is difficult to travel to Pierre, the capital, without traveling through reservation land. One cannot go through the state on I-29 without traveling through reservation land. Indian Country, still, is everywhere, but notably not in the *Paha Sapa*.

South Dakota and its Native populations are intimately bound, and because so, the state has concluded that it is imperative for teachers to know about its Native peoples and their history with Whites. The course

developed in this chapter is generally titled “South Dakota Indian Studies.” It is one of two courses required by the state of South Dakota in order to obtain teacher certification. However, those who want to teach in South Dakota must show transcribed proof of having taken an approved Indian Studies course. And though the various Institutions of Higher Education offer different instantiations of the course, every course, regardless of professor or institution, must incorporate four core strands: cultural dynamics; history; educational theory and background; and, pedagogical strategies for the classroom (South Dakota Department of Education, 2014a, 2014b). In conjunction with the core strands, this course also incorporates the state’s “Oceti Sakowin Essential Understandings and Standards.” There is much expected from these courses, and for good reason.

Some brief background. The reference to *Oceti Sakowin* is a conscious departure from the historically pejorative term *Sioux*, an English adaptation of a French corruption of an Ojibwa term (Gibbon, 2003), which essentially means little snakes, devils, or demons (Makes Good, 2009). According to the state’s standards document, “Oceti Sakowin is a cohesive tribal society consisting of seven tribes known as the Seven Council Fires” (Oceti Sakowin Essential Understandings and Standards Workgroup, 2012, p. 40). The purpose of the standards is clear. They are established “to give school districts in South Dakota some basic knowledge about the Oceti Sakowin” (p. 2). According to Dr. Craig Howe who is quoted by the workgroup, “The hope is that citizens who are well educated about the Oceti Sakowin history and culture will be more likely to make better decisions in the arena of Indian issues and to get along better with one another” (p. 2).

Regarding the Native populations about which teachers should be well educated, they amount to roughly 10 percent of South Dakota’s total population. And though 10 percent might seem minor, Native representation is found in nearly every school district. According to the South Dakota Department of Education’s Statistical Digest website, of the 9,168 certified instructional staff, 8,750 are White (South Dakota Department of Education, 2014a, 2014b). In other words, though close to 10 percent of the overall population in South Dakota is Native, and though 10 percent of students enrolled in South Dakota public schools are Native (U.S. Department of Education, 2011–2012), 95 percent of the teachers in the state of South Dakota are White, and have a distinctly different worldview that, arguably, mismatches with the Native worldview.

According to the Oceti Sakowin standards report, this cultural mismatch has dire consequences for Native students. As the report states, “When we approach teaching with one worldview [the dominant worldview], and

Native students have a different worldview, we create systems of failure in our schools” (Oceti Sakowin Essential Understandings and Standards Workgroup, 2012, p. 4). The report continues to argue that “by learning about the culture of Native students in our classrooms, we encourage these students to feel good about themselves and their heritage. In general, American Indians who are traditional and bicultural adhere to a relational worldview, while European American teachers adhere to a linear worldview. The relational worldview can be described as a holistic approach to life. In this view, all areas of people’s existence, the mental, spiritual, emotional, physical, social and psychological are considered to be interrelated.” Furthermore, when White teachers are able to open themselves to another worldview, this assists them “in understanding of what occurs both in and outside of Native communities” (p. 4). It is in trying to do something with this mismatch that the epistemological and inquiry-guided approach of *resonances* comes into relief.

CONCEPTUAL BACKDROP: A NASCENT THEORY OF RESONANCE

In an attempt to meet the objectives within the core strands, and to help students address the standards when they teach, the course developed herein has a unique description. It is designed as a study into the various socio-cultural and historical dynamics that in part account for the present day existential considerations faced by many Native people on and off reservations in South Dakota. These accounts are provided through scholarly materials, narrative, autobiography, biography, indigenous philosophy, and teaching resources. Through such sources, and in reflecting on the course’s various instantiations, students are accorded an opportunity to learn about and appreciate various cultural, religious, and historical practices that mark the various South Dakota “Sioux” Indians – Oceti Sakowin.

In accordance with Dr. Howe’s hope expressed earlier, the course is heavy on the socio-cultural, historical, and autobiographical more so than the pedagogical. The purpose for this is inspired from the notion of “thick description,” animating from Geertz’s (Geertz, 1977) work that has been appropriated by many in the social sciences. In brief, the course focuses on those socio-cultural and historical things – context – that in part animate behavior as a way of situating behavior for the sake of better understanding. This understanding, which comes from an ability to thickly

describe the animating culture of one's students and one's self through resonances, affords insight into how to shape pedagogy in culturally relevant ways.

In terms of the course's conceptual underpinnings, there are a few pieces that make up this whole. The remainder of this section is dedicated to weaving those pieces together for those interested in creating a course with a similar epistemological approach to inquiry: *resonances*.

At the end of the previous section, the dilemma of cultural mismatch was broached. According to the report cited earlier, mismatch in terms of the cultural frames through which the world is viewed leads to a system of failure for Native students. It is intimated that through the standards, mismatch can be mitigated. As has been argued elsewhere, there are many problems attached to the practice of cultural matching as a policy aimed toward mitigating academic underachievement of minority students (Shudak, 2013).

Matching is rooted in the premise that White teachers, because they come from a background culturally distinct from many minority students, in this case Native students, their cultural perceptions require alteration through experiences and coursework. To this end, Chance et al. comment that "It is necessary to alter the perceptions of all preservice teachers about working with children from culturally diverse backgrounds, children of color, and children in poverty" (Chance et al., 1996, p. 387). And though the authors are careful to state "all," it is evident from the piece that theirs is really a reference to White preservice teachers. As found through an analytic exploration of the concept of diversity as used in teacher education discourses, some scholars believe that "For White, middle-class, monolingual, female teachers, their perceptions are built within and 'patterned after the [frames of] mainstream culture, a culture steeped in the legacies of racism and colonialism'" (Shudak, 2013, p. 53). According to the discourse "such legacies impel White teachers to perceive their diverse students through a demeaning deficit lens, a lens that tends to reify White teachers' privilege much to the detriment of their diverse students' academic successes" (p. 53). In order to challenge and change these perceptions, then, certain courses within teacher education programs must act "as a vehicle through which to examine in depth personal bias and racism and to better understand the meaning of diversity" (Baldwin et al., 2007, p. 315). This is no easy task as "teacher education candidates often enter teacher preparation programs with beliefs and dispositions that mitigate against fostering the educational success of children from diverse backgrounds" (Major & Brock, 2003, p. 9).

The “Indian Studies” course for South Dakota certification is just such a course designed to alter White students’ cultural frames of reference, to alter toward matching. Such courses seemingly borrow from Leon Festinger’s “Theory of Dissonance.”

The premise behind Festinger’s study is quite simple. On Festinger’s terms, and generally, there is some “consistency between what a person knows or believes and what he does” (Festinger, 1957, p. 1), and when an inconsistency arises, psychological discomfort is experienced. This inconsistency is what Festinger calls *dissonance* – “the existence of non-fitting – [mismatching] – relations among cognitions” (p. 3) – and leads toward activity to reduce it, to find *consonance*. The impulse, then, is to engage in activity that leads away from mismatch and toward consistency, or matching. Dissonance, on Festinger’s terms, is a motivational factor.

In the teacher preparation classroom, this can play out by providing and/or creating situations in which dissonance is introduced. The hope is that dissonance leads to activity to reduce the discomfort between the frames. However, the dissonance reducing activity essentially is learning new culturally relevant frames. The hope is also that the activity will lead to an actual change in the cognitions – knowledge or thoughts or beliefs – and thus ultimately the behaviors of White teachers in classrooms comprised largely of minority – or in this case, Native – students.

Matching is the wrong place to begin. Even if this were desirable, it is seemingly unrealistic to think that one course, or even a series of courses, could alter perceptual frames that have developed over a lifetime (Lortie, 1975). Furthermore, there is next to no evidence in the literature to suggest that even if the perceptual frames of White teachers were altered, that minority student achievement increases due to this change (Shudak, 2013, p. 55). And though Festinger’s theory of cognitive dissonance is worthy of being part of an informed pedagogy, when it comes to courses in which people study other people, however, I have turned toward something called *resonance*.

Though there are no educational theories or theorists of resonance, it is a studied phenomenon in the mechanical, electrical, and optic fields. Resonance as it informs my course, however, is quite musical, not unlike Festinger’s appropriation of dissonance and consonance. Etymologically, resonance comes from *resonatus* or *resonare* and literally means to re-sound, or, to sound again. Simply put, resonance happens when the vibrational energy caused by, let’s say, an instrument in turn causes some other nearby object to similarly vibrate in a harmonizing way. However, two separate and distinct objects can harmonize while maintaining their

separateness, distinctness, and uniqueness. This is perfectly captured by English and Ethnic Studies scholar, Benjamin Carson, in a reflective essay parlaying his experience as a “*wasi’chu*” at a Sun Dance (Carson, 2008).

Carson acknowledges that “Historically, the Sun Dance was not open to the public, and the White man had no place under the arbor, let alone the sacred dancing ground. Given the vicissitudes of history, this is entirely understandable” (Carson, 2008, p. 48). And though there is still a place for the protection of tradition, and the right for a given culture to control the representation of its practices and values, there is a danger, however, when control and protection turns toward a “politics of exclusion,” as “exclusion is the constitutive element of a racist culture” (p. 51). When it comes to the White Christian culture of the upper plains and the Native populations indigenous to the land, Carson comments that “untangling indigenous practices from outside influences is as undesirable as it is impossible” (p. 51).

It is on this point that resonance comes into play. According to Carson, and “For many Indians in the United States, for example, Christianity is as fundamental to their way of life as traditional indigenous practices. (The pipe ceremony and the Eucharist, rather than being spiritually at odds, *resonate* with one another in profound ways [*italics added*].) Despite the horrendous abuse of Indians at the hands of Christians, Christianity, in all its varieties, has provided and continues to provide spiritual sustenance to indigenous peoples” (p. 51). Though not explicitly his intent, Carson’s piece is itself an example of the resonance that guides my course.

Carson starts his essay with a prayer: *mitakuye oyasin*. In quoting Chief Leonard Crow Dog, Carson informs that “If *mitakuye oyasin* (Amen to all of my relations) means anything, it means we must love our relations, even the ones we hate” (p. 47). To more fully understand the prayer, Carson juxtaposes it with the notion of *unconditional hospitality* coming from French postmodernist Jacques Derrida. As Carson quotes Derrida, unconditional hospitality goes beyond mere tolerance, “which remains a scrutinized hospitality, always under surveillance, parsimonious and protective of its sovereignty ...” Rather, unconditional hospitality “opens or is in advance open to someone who is neither expected nor invited ...” (p. 53). Unconditional hospitality places no burden on the visitor, but that the burden is on the one who is visited, to indeed ask nothing such that “All are welcome.”

The connection between the two is syllogistic: If all are welcome, then all are related like family, even the ones we hate; and, if all are like family, then all are welcome, even the ones we hate. The resonance between the

two is risk and openness. Mitakuye oyasin requires us to take risk, to open ourselves to each other as we are all family, regardless of our feelings toward each other. This openness is a risky proposition in that through the openness, we risk getting to know others as well as ourselves, for better or worse; we risk opening ourselves to the possibility of change. Arguably, the same can be said for the notion of unconditional hospitality.

Carson provides the reader with two seemingly distinct, separate, and unique culturally rooted concepts in mitakuye oyasin and unconditional hospitality. However, when juxtaposed, and when one is struck through processes of inquiry, it *resonates* with the other – vibrates in harmony with – though still distinct, separate, and unique. Through the development of this nascent theory of resonances, a process of inquiry is broached that allows two seemingly distinct, unique, and perhaps even separate cultures to learn about the other in deep and profound ways without giving up or over anything to do so. In a classroom setting, and through this type of inquiry, there is no obligatory compliance through the feigning of changed cultural or perceptual frames for the sake of passing a course or placating a professor. Inquiry conducted through resonances opens up the possibility that we might come to know ourselves and the other more fully. The following section discusses the pedagogical implications of resonances as a process of inquiry.

RESONANCE-BASED INQUIRY: PRACTICAL PEDAGOGICAL IMPLICATIONS

In his study titled *The Sioux*, archeologist Guy Gibbon (Gibbon, 2003) warns the reader that there are some ‘fundamental issues’ and ‘subtle problems’ involved when one group of people studies another. In part, those issues and problems stem from the assumption that those doing the studying do so from a position of a fixed and immutable identity, while those who are studied are also assumed to be of a fixed and immutable identity. For Gibbon, this is problematic. Identity, though at times stable, is something fluid and oftentimes negotiated. In order to help students inquire into the identity of the Oceti Sakowin while adhering to the core strands and essential understandings, and in a way that doesn’t assume deficiency in perceptual frames based on race, the resonance-based inquiry in my course is also a concomitant study into the self. To do this, to inquire into culture through resonances, students must also engage in autoethnographic study.

Succinctly stated, borrowing from Reed-Danahay (1997), “autoethnography is defined as a form of self-narrative that places the self within a social context” (p. 9). Glesne offers that it is “the kind of writing that inquires into the self” and begins with the self (Glesne, 1999, p. 181). Glesne also borrows Carolyn Whites’s term of *mystory*, as White uses the term to help her students think about and critique their constructions of ethnicity, and in particular Whiteness (p. 182). Autoethnography, then, is in part how – the method of inquiry – students find culturally rooted concepts within their culture in order to find resonances with culturally rooted concepts from the Oceti Sakowin. Through resonances, students come to understand the “other” and the “self” in deep, powerful, and profound ways, in ways that my traditionally based lecture style classrooms and even classrooms predicated on learning about the “other” through dialogical methods could not.

Though there are several assignments in my course, there are three autoethnographically rooted that assist students in developing the ability to find resonances: *Re-presentation of the Self*; *Re-presentation of the Other*; and, *5 Things*.

Re-Presentation of the Self

This first assignment is titled “Re-presentation of the Self.” This assignment is designed to help students think of themselves as researchers of oneself while concomitantly researching the “other.” This assignment gives students an opportunity to re-present the self to oneself; to start thinking of the self as a subject similarly to how the Oceti Sakowin are the subject of inquiry throughout the semester. This particular assignment is sent directly to me and is then opened for discussion during class after I’ve had a chance to read and process the responses.

The most difficult part of this assignment, and of the overall inquiry, is getting students used to thinking about themselves as beings who exist within a cultural context, as culturally dependent beings. According to Tatum, when students come from “areas where a person is a member of the dominant or advantaged social group ... identity is so taken for granted by them that it goes without comment” (Tatum, 1997, p. 21). Classroom discussion is what generally opens the students’ eyes to the possibility of how many different ways we exist as cultural beings. As will be discussed in the next section, this is an uncomfortable assignment for many, simply because of its newness and novelty.

As it is inspired by autoethnography, and after reading a couple of selections and examples of autoethnography, this assignment asks the students to start thinking of themselves as an autoethnographer. To that extent, this assignment challenges students to put “self” into the foreground, to make self and the encapsulating social life more conscious, holding out for the possibility that one’s self is really something multiple and shifting. This assignment really marks the beginning of the course’s resonance-based inquiry and occurs somewhere after the first week of class. The assignment’s open-ended prompts are as follows. Again, this assignment is designed to get students thinking about themselves as an object of cultural inquiry and can occur more than once throughout the semester.

Prompt 1: An understanding of autoethnography is that it is a type of study and writing that inquires into the self as the self is part of a larger context. In a few sentences, begin to re-present to yourself what you think is the larger context that encapsulates the individual self. What is in this context? What does it look/feel like? Who’s there? What’s there? Of course you can’t add everything. I’d like you to limit yourself to about 150 words. Please be more matter of fact and descriptive than creative with your writing.

Prompt 2: Re-read your response to the first prompt. In terms of a larger context, what did you leave out and why?

Prompt 3: Prompt 1 asked you to focus on a larger encapsulating social context. For this prompt, focus on the self more narrowly. What do you think represents you as a self? There might be some overlap with the first prompt.

Prompt 4: How might your responses to prompts 1 and 3 sound differently would you have done this assignment five years ago? Why?

It is important to note that there is plenty of question and answer that goes on prior to, and even during, this assignment. We talk a bit about culture and context so that they have some place to start. With that said, the ambiguity leads to some divergent responses, which is great for conversation and dialogue.

Re-Presentation of the Other

As indicated by the name, this assignment is a follow-up to the previous one and generally occurs a few days after studying and reading about the Oceti Sakowin. The previous assignment asked students to go deep within, to turn the gaze of study inward before turning their gaze to the other. This assignment asks students to inquire into the cultural concepts of the