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A study of outcomes-oriented student reflection during internship: The integrated, coordinated, and reflection based model of learning and experiential education

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ABSTRACT

Student reflection in experiential education is recognized as a valuable tool in learning and development (Moon, 2006). InCoRe, an acronym for integration, coordination and reflection, is a model for reflective teaching and learning intended to encourage student reflection prior to, during, and after an internship experience. InCoRe operates through the strategic *integration* of experiential education within a program of study, the *coordination* of student advising between faculty and the administrators and staff members who manage and support experiential education and student-based *reflection* oriented toward fulfillment of student learning outcomes. The model employs several theoretical constructs including a derivative of Bruner's (1960) spiral curriculum, Tyler's (1949) principles of curriculum and instruction, Kolb's (1984) model of reflective thinking, and Boud, Keogh and Walker's (1985) approach to facilitating post-learning reflection. A 14 item survey was developed to assess student perceptions of reflection, outcomes attainment, and appropriateness of curriculum relative to their program of study for $N = 943$ post-secondary college students at a major national non-profit university. Implications for educators and students regarding reflection and outcomes attainment are discussed. (*Journal of Cooperative Education & Internships*, 2010, 44(1), 42-50).

Keywords: reflection, experiential education, student learning outcomes, outcomes attainment, curriculum

For more than three decades, the career services office at Johnson & Wales University has provided students with a well developed process for securing placement in an internship. Students complete an application for internship, undergo an interview, select a placement location, complete an orientation, and undergo an eleven week internship within their field of study for academic credit. The application process, placement, orientation, and academic assessment of the internship are administered by the experiential education and career services office at Johnson & Wales University.

Although running well, over the past three years the university has sought to make improvements to its programs and services in connection with the university strategic plan titled FOCUS 2011. FOCUS 2011 provides broad expectations for strengthening career opportunities for students and specific expectations for reengineering experiential education. Specifically, the university seeks to provide each student with a real-world learning experience integrated with the academic component of their program. With the launch of FOCUS 2011, Career Services staff members took on the challenge of improving their programs and services in pursuit of the goals set in FOCUS 2011. Recent efforts to improve internship at the university led key academic and career services administrators to devise a series of upgrades focused on the integration of academic learning objectives into internship and embedding reflection and assessment into program requirements. Central to this series of improvements is the addition of student-based reflection. This paper describes the university's attempt to embed reflection related to self assessment, specifically during the internship experience. To this end, this paper will address three areas:

- a. how the university developed a conceptual model, called InCoRe, to more intentionally incorporate reflection into the student experience;
- b. how the university began to implement the conceptual "InCoRe" model; and
- c. what were the results of student survey data that emerged from the conceptual "InCoRe" model.

The paper will be organized in the following manner. First, the development of the InCoRe model will be described. Next the theoretical and pedagogical underpinnings of the model will be shared. Third, the student survey methodology, data and results related to self assessment will be provided. Finally, a discussion of the results and implications will be offered.

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INCORE MODEL

The shift toward embedding reflection in the internship program began in 2007. Faculty and administrators at the university were conducting a major audit of program outcomes in preparation for an accreditation visit when they discovered a lack of formal connectivity and student reflection from one academic year to the next between experiential, liberal arts, and professional outcomes within a group of undergraduate degree programs. They concluded that an opportunity existed to map outcomes from one year to the next, link these outcomes through designated milestones and foster student reflection on learning and outcomes attainment at each of these milestones. The idea gained further acceptance after a second group of university administrators refined the idea while working to improve the experiential learning programs at the institution. This resulted in the development of a perspective that student reflection during their internship experience should be outcomes-based whereby students consider the outcomes required of them during their internship while reflecting on the experience itself. Administrators, including the Dean of Experiential Education and the Associate Provost, and the Dean of the College of Business became champions of the idea and work began in earnest to develop a final set of internship outcomes and methodology to assess student self-perceptions of competency.

A hypothesis that learning will be enhanced through required intervals of student-based reflection evolved from the audit and an operational definition was adopted from the literature to assure a common understanding: "Reflection is the process through which students step back from their experience and consciously learn from that experience" (Bailey, Hughes, Moore, 2004, pp. 215).

Further discussions with members of the College of Business faculty and administration resulted in the creation of InCoRe. InCoRe is an acronym for integration, coordination and reflection. Along with the creation of the acronym, the authors created a model of the InCoRe concept that graphically illustrates integration, coordination, and reflection for a four year degree (see Figure 1). Note that this paper is focused on student reflection in relation to learning outcomes and does not provide a discussion of the integration and coordination aspects of InCoRe. InCoRe is a theoretical map for assuring intervals of reflection in a four year degree program across three dimensions; during courses in the major, courses in general studies and during work integrated learning experiences or internship. For InCoRe to function successfully, student learning and reflection must be coordinated across the degree-granting school or college, departments providing core general studies courses, and those that manage and coordinate work integrated learning.

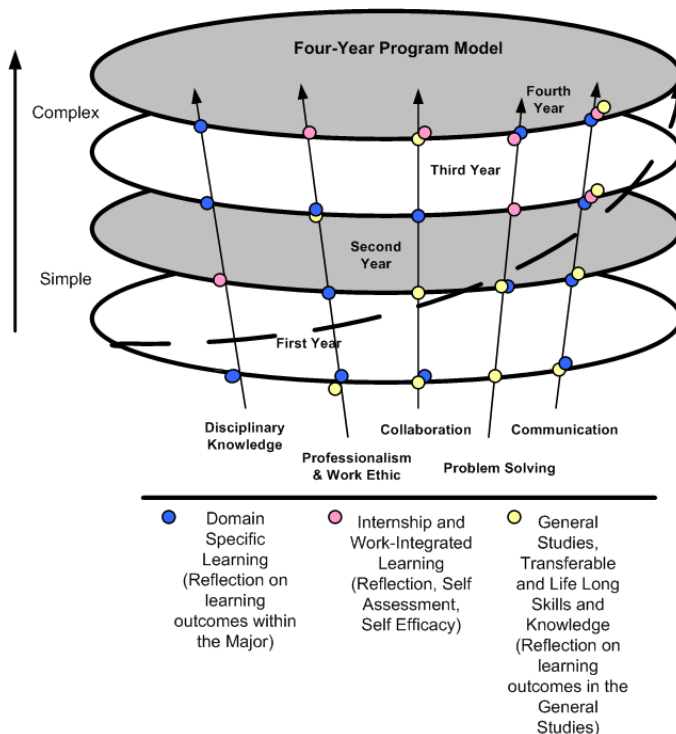


FIGURE 1
InCoRe Model

INCORE THEORETICAL PERSPECTIVES AND PEDAGOGY

The intent of this section is to provide an overview of the major theoretical underpinnings of the InCoRe model. Careful consideration was given to the perspectives and theories of major thinkers who have written about program design from the fields of philosophy, instruction, and reflection. InCoRe is built, in part, from these perspectives. This section will highlight the major theorists that influenced the InCoRe model, starting with Spencer and moving to Bruner, Tyler, and Kolb. Discussion of the theoretical underpinnings of the model will help the reader understand the evolution and development of InCoRe and, more importantly, provide a broader view of curriculum theory.

The pedagogical origins of the InCoRe model are structural in nature and begin with the educational philosophy of Herbert Spencer and follow with the influential perspectives of Jerome Bruner, Ralph Tyler and David Kolb. In his seminal work, *Education: Intellectual, Moral, Physical*, Spencer (1891) proposed that knowledge should have some practical benefit to society in the development of thinking skills in the learner who undergoes an education:

Acquirement of every kind has two values – value as knowledge and value as discipline. Besides its use for guidance in conduct, the acquisition of each order of facts has also its use as mental exercise; and its effects as a preparative for complete living have to be considered under both these heads. (p. 37)

To Spencer, the proper design of a curriculum or learning experience provided both practical application and the development of thinking. He suggested that consideration be given not only to what to teach but how to teach it and for what purpose.

Writing nearly one hundred years after Spencer, Jerome Bruner (1960), attempted in part to answer Spencer's essential question of "what knowledge is of most real worth" (p. 26) by adding perspectives on "how and when" teaching should occur. One of Bruner's key concerns in exploring the question was teaching for transfer. Bruner proposed that learning should be active and that the active use of learning is a precursor to transfer. Like Spencer, Bruner felt that learning should move from simple to complex, and that such learning should be discipline-specific – building or layering skills and knowledge within a discipline over a period of time until fluency is established and the potential for transfer developed. Transfer, in this case, refers to the ability of a learner to use knowledge and skills within one context to navigate or solve problems within another similar or, in some cases, dissimilar context. Layered above the notion of transfer is an individual's self efficacy or belief about his or her ability to produce specific levels of performance (Bandura, 1994) that come with experience, practice and expanded intellectual ability.

This concept serves as the root of what has come to be known as Bruner's spiral curriculum: a curriculum that, over a period of time, moves from general to specific, simple to complex; from broad to specific. The authors acknowledge that not all learning fits neatly within the model. However, the model emphasizes a progressive approach to learning that fits well with the way students learn as they progress from one year or grade to the next.

InCoRe, as presented in Figure 1, is directly based on Bruner's model of a spiral curriculum. Bruner's (1960) view that "learning should not take us somewhere; it should allow us later to go further more easily" (p.17) supports the tenets of the InCoRe approach, and InCoRe has the potential to fulfill Bruner's expectation. Bruner proposed that learning is an active and intentional process where learners develop new knowledge by building on current and prior knowledge. This implies that prior and current learning can be explicitly linked when appropriate, and this intentional linking is a potential method for improving learning.

The InCoRe model is also highly influenced by Ralph Tyler's *Basic Principles of Curriculum and Instruction* (1949). Tyler is widely recognized in curriculum and teaching circles for the Tyler Rationale. The rationale proposes four questions that must be answered when developing a curriculum or program of study. These key questions are:

1. What educational purposes should the school seek to attain?
2. What educational experiences can be provided that are likely to attain these purposes?
3. How can they be organized?
4. How can we determine whether these purposes are being attained? (p. 1)

Tyler created a four part approach to articulating a program of study driven by both epistemological as well as pedagogical questions. Certainly, Tyler's work from more than 50 years ago applies to contemporary perspectives on outcomes, assessment and institutional accountability. His rationale, still relevant, influenced the InCoRe model in a profound way.

For InCoRe to function as intended, program outcomes have to be well established and written with precision in response to Tyler's first question about the educational purposes a school, or in this case, a program of study, should seek to attain. InCoRe, as a model, allows for exploration of Tyler's second question about the experiences that will fulfill the purposes listed in response to his first question. Experiences are seen in holistic form and, following Bruner's spiral curriculum, mapped out over a program of study. InCoRe allows for the identification of pivotal moments within a four year program of study where, through reflection, learning in fulfillment of program outcomes can be enhanced. The ability to link learning across courses and years of study is not only enhanced but mapped according to the InCoRe model allowing students, faculty members and experiential learning advisors advance notice of when reflection on learning should occur.

As the authors refined the model it became obvious, through discussion, a review of the literature, and analysis of academic program structures at the institution, that additional consideration was necessary to map three specific types of student learning outcomes; 1) domain specific within the major, 2) work integrated learning outcomes, and 3) outcomes in the general studies portion of the degree program. Although the results presented in this paper are focused on internship, InCoRe is intended to foster reflective thinking and learning across the full spectrum of learning at the university. Students, in theory, will be guided toward reflection within each of these three categories and at predetermined touch points depending on their year of study, prior academic work, pending work integrated learning experience and academic performance. The authors acknowledge that each student develops at a unique pace and the model does not suggest that every student will develop the same level of competency at the same point in time. Instead, the model suggests that each student will engage in reflective learning at a predetermined point in time regardless of the level of competency achieved.

Reflection is the most important aspect of the InCoRe model, particularly as it relates to the pre-determined touch points prior to, during, and after the work-integrated learning experience. In this sense, reflection refers to the process of linking current experience with prior experience in an attempt to increase the attainment of program outcomes within a given discipline and self efficacy. Students are provided with a program map of where reflection about their academic and work-integrated learning will occur. During these points of reflection, faculty and staff members guide students as they attempt to construct meaning from their experiences, develop personal and professional insights and future goals.

Kolb's (1984) four-part model of experiential learning (concrete experience, observation and reflection, formation of abstract concepts, and testing in new situations) provides a theoretical basis for the reflective part of the InCoRe model. However, the most important part of Kolb's influence is the ongoing and cyclical nature of his four-part model. The spiral InCoRe model is as much built on Kolb's view of cyclical learning and development as it is Bruner's. The facilitated reflection step included in the model is derived from the theoretical work of Kolb. However, the approach used with students is based more on the writings of Boud, Keogh and Walker (1985) who offer a working definition for reflection germane to the InCoRe model, stating that "reflection is an important human activity in which people recapture their experience, think about it, mull it over and evaluate it. It is this working with experience that is important to learning" (p. 19). InCoRe follows a similar construct but with a greater emphasis on debriefing and reflection. Students would focus debriefing and reflection on attainment of the learning outcomes in place for their specific discipline in relation to a recently completed work-integrated learning activity. The faculty member facilitating the reflection with his or her student uses the context of the student's work-integrated experience as the basis for reflection on attainment of learning outcomes and self efficacy.

InCoRe represents an evolutionary construct built on the prior work of great academic theorists. It is unique not because of the theory it is based upon but because the institution where InCoRe is being piloted is committed to employing the model as a means for student transformation. The team that developed InCoRe, due to its composition, understood that working together to improve student learning was both feasible and necessary and that InCoRe represented a simple construct that could guide this interdisciplinary work in a meaningful and planned way.

During the latter phases of InCoRe development, a new system for collecting student feedback related to the internship experience was also being developed. The InCoRe model influenced the student feedback project and data regarding students' self assessment of internship learning competencies was collected. The development of a student feedback instrument for internships was the first in a number of planned subsequent steps to the InCoRe model and this paper reports on the findings of this first step. The implications and significance of the creation and implementation of this student survey are broader than the InCoRe model. More important than the specific results of the pilot was the new

mechanism to collect consistent student input to be used to improve internship programs, career services, and the overall student experience. Perhaps most important, the student self-reporting on the experiential education competencies at a specific milestone (internship) will have the most impact once aggregate data over the course of an academic year is analyzed and fully realized.

METHODOLOGY

An important component of the university experiential education re-engineering efforts was the development of a feedback mechanism for internship program, process improvement, and student self assessment of established competencies. Information obtained from both internship students and internship employers about the internship experience can be used to positively affect the internship program design, internship site quality, and services and resources offered by the university. Additionally, the results from the assessment have potential to be used as a feedback mechanism for the academic units and curriculum enhancement.

Survey Instrument Development

Prior to 2008, the university used a variety of student surveys for internships. With a goal of creating a common student survey evaluation instrument to be used by the four campuses of the authors' home institution, the following steps and methodology were used to develop the instrument. Subsequently, a new internship student survey instrument was developed and implemented in the spring of the 2010 academic year, yielding promising results.

Student internship survey instruments from all four campuses, academic colleges, and academic programs were collected, yielding sixty-five unique student survey instruments. Historically, these survey instruments consisted of both hard copy paper forms and Microsoft Excel or Word documents that were emailed or faxed from employer and student to the university career services office. The questions from each survey instrument were compiled yielding over 400 student survey questions. Once compiled, the survey questions were coded and organized into categories. The major categories that emerged were a) "services" provided by the experiential education and career services department, b) internship "program" related information, c) "skills" related questions, d) internship "site" related information, and e) "value-added" information. Building from the five survey categories, a list of potential survey questions was developed. Ultimately, a final set of survey questions was developed using the following question: What student feedback or data is essential for improvement of the internship program or to provide the university with an understanding of how to enhance the student experience? Once developed, a draft of the survey instrument and questions was shared with the directors of Experiential Education & Career Services and staff at each campus and the Vice President of Experiential Education & Career Services for input prior to finalizing the pilot survey instrument.

Through a collaborative effort with the university office of institutional research, a discussion ensued about creating the most efficient process for distributing the new student survey instrument and collecting student responses. Instead of developing the survey instrument in Microsoft Excel or Word format and distributing the survey instrument via hard copy or email, as done previously, an electronic, on-line version of the survey was created using the Survey Monkey software. The on-line link to the Survey Monkey software was shared with work-study students from each campus in the spring of 2010. Student feedback about the content, clarity of survey questions, general process using the Survey Monkey software, and time to complete survey was collected. Based on this feedback, the survey instrument was modified and finalized.

Instrumentation

The survey was developed to assess student satisfaction with services, self reflection, and self-reported attainment of competency. Specific validity and reliability analyses were not conducted on the survey instrument; however, feedback was collected from a sample group regarding the language of the questions, thus adding to the content validity of the instrument.

Administration

In week 9 of the 11 week spring 2010 term, the student survey pilot was officially launched. The student survey was administered to internship students at each campus using Survey Monkey, a web-based survey design and data collection tool. Electronic invitations to participate with introductory and explanatory messages were emailed via Survey Monkey. Electronic links to the survey with an introductory and explanatory message were sent to internship

students. One week later, students who had not completed the survey were identified and a follow-up email was sent to these students.

Sample

A total of 1217 male and female students in the second, third, and fourth year of study depending on their major (n = 1217) were sent the survey via email. A total of 943 respondents participated (n = 943) resulting in a response rate of 77.5 percent. Table 1 provides a profile of the respondents by school and college.

TABLE 1
Respondents by School/College

School/College	Respondents (n)	Proportion (%)
College of Business	133	14
College of Culinary Arts	525	56
Hospitality College	259	27
School of Technology	26	3
Total	943	100

RESULTS

Data analysis was conducted using SPSS. Not all of the results of the pilot survey are relevant to the scope of this article. Table 2 contains the responses and percentages for the students' ratings of their internship experience. Students were surveyed regarding their proficiency in the university-identified experiential education competencies; disciplinary knowledge and skill, professionalism and work ethic, problem solving, communication, and collaboration. Ninety-three (93) percent of students surveyed agreed that he or she demonstrated competency in their discipline during their internship experience. Eighty-five (85) percent of students agreed that he or she demonstrated competency in professionalism and work ethic during their internship. Ninety (90) percent of internship students agreed that she or he demonstrated competency in problem solving. Ninety-three (93) percent of internship students reported that she or he demonstrated competency in communication while 91 percent of students agreed that she or he demonstrated competency in collaboration during their internship. In addition, 81 percent of the surveyed students agreed that they regularly engaged in a process of self-reflection throughout the internship experience, although 16 percent of students reported a neutral response. Furthermore, students report that they are able to adapt to their internship site, that they regularly engage in self-reflection and that their coursework prepared them for their internship experience. Regarding the value-added survey items, the following results emerged. Eighty percent of students agreed that the internship program strengthened his or her confidence in academic program or career choice. Seventy-six percent of students surveyed agreed that they feel more prepared for their career after completion of the internship.

DISCUSSION AND IMPLICATIONS

This paper presents the evolution of the InCoRe model with the goal of transforming the model from conceptual to practical. However, the movement from conceptual to practical is a multi-phase process. The results of the student survey data presented address the first phase of moving the InCoRe model from conceptual to practical. Specifically, this involved creating a survey instrument to capture student feedback related to attainment of established competencies during the internship. The next phase, which is currently underway, is redesigning the internship assignments to include increased critical reflection and student self-assessment, particularly related to pre-determined competencies. A third phase, also underway, involves capturing internship employer assessment of student competency through a similar survey instrument, allowing employers to evaluate student performance during the internship. The employers are evaluating students against the established experiential education competencies noted earlier. The

survey, supported by the comparative results from both student and employer, especially for the experiential education competencies, will be useful tool to validate the InCoRe model during its implementation. As described earlier, the InCoRe model outlines a theoretical map where students are prompted to reflect on their attainment of learning outcomes at designated pre-determined milestones. The scope of this paper highlights the designated milestones of the second and fourth year internship experience and provides the results of a student survey asking students about a number of related items including a self-assessment of attainment of student learning outcomes for their internship experience.

The high percentage of students that report engaging in self reflection (Q3b) exceeded the results anticipated by the authors and indicates that students are prone to self reflection and that the quality of reflection could potentially be improved if students are provided with guidance. The authors were also surprised by the high percentage of students who agree that they demonstrated competency across all outcomes categories. Although a student self report is an indirect form of assessment compared to a direct assessment of student competency, the results suggest that students feel they have competency and, perhaps, a certain degree of self efficacy. Overall, the positive results reported by students indicate that the approach to integration, coordination and reflection proposed by the authors in concert with the assessment methodology used may prove to be an effective way of engaging in program and outcomes assessment for four-year programs that include some form of experiential learning.

We anticipate that the findings presented in this article will further the understanding of internship programs on student learning and development, particularly in relation to program competencies or learning outcomes. The results will also serve as evidence of successful completion of the goals set forth in the university strategic plan FOCUS 2011.

Practitioners involved in university-wide strategic initiatives or planning related to experiential education or work-integrated learning programs may also find the following implications helpful. First, the creation of a conceptual model grounded in experiential and learning theory provided university stakeholders a visual depiction of a multidimensional construct, InCoRe. Development of a visual model provides a central reference point for stakeholders to refer to over a long-term strategic initiative process. Second, conceptual models are limited in benefit to university leadership unless they can offer data to support the effectiveness of the model. In this case, we have strategically decided to extract a particular part of the conceptual model, collect data, and are preparing to report the data to the necessary stakeholders. Practitioners may find this a benefit to understanding the transition from conceptual to practical.

Finally, the results of the student survey have many implications, particularly related to program improvement and academic preparation prior to the internship experience; however, this is not within the scope of this paper. Future research will investigate the expansion of student reflection based learning within courses in the major and the general studies core.

SUMMARY

The intent of this paper is threefold. First, the paper outlined the developmental process of a conceptual model called InCoRe, an acronym for “integration,” “coordination,” and “reflection.” This model was central to the re-engineering efforts of a university-wide experiential education program that included the incorporation of student self-assessment of established competencies. Included in this section were the theoretical foundations for the model. Second, the paper described the first steps in implementing part of the conceptual model, specifically capturing student feedback related to assessment of the previously mentioned competencies. Third, the paper shared the results of the student feedback described above. As further implementation of the InCoRe model takes place, the authors anticipate the model itself, as well as the usefulness of the data obtained from future studies, will evolve.

TABLE 2
 Experiential education survey responses

Survey Question	Agree n (%)	Neutral n (%)	Disagree n (%)	Total n (%)
Q1d. Internship strengthened my confidence in my career/academic program	749 80%	134 14%	55 6%	938 100%
Q1e. I feel more prepared for my career after completion of internship	717 76	162 17	62 7	941 100
Q1f. The internship experience affected my educational and career goals positively	726 77	159 17	53 6	938 100
Q2a. At my internship, I demonstrated competency in my discipline	876 93	56 6	9 1	941 100
Q2b. At my internship, I demonstrated competency in Professionalism/Work Ethic	894 95	45 5	3 0	942 100
Q2c. At my internship, I demonstrated competency in Problem Solving	850 90%	83 9%	7 1%	940 100%
Q2d. At my internship, I demonstrated competency in Communication	875 93	56 6	7 1	938 100
Q2e. At my internship, I demonstrated competency in Collaboration	854 91	74 8	11 1	939 100
Q3a. I was able to successfully adapt to my internship site	868 93	59 6	9 1	936 100
Q3b. I regularly engaged in a process of self-reflection throughout my internship	762 81	151 16	25 3	938 100
Q9. My Johnson & Wales University coursework appropriately prepared me for my internship experience	678 73	197 21	56 6	931 100

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