The Online Educator: Instructional Strategies for Effective Practice

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Abstract

Although many online instructors have varying degrees of classroom experience, limited experience with the online environment makes them novices in this teaching and learning context. This paper, which is aimed at the novice online educator, articulates a unified online learning framework that: describes the higher education online instructional environment in terms of student inputs, institutional influences, and student outcomes; describes the relationship between student inputs, instructional strategies, and instructional outputs; and provides instructional prescriptions to guide the practice of the online educator. Prescriptions are based on an authentic example of a research methods course taught at multiple virtual universities over a five year period. Future research includes broader application of this framework and gathering feedback on its efficacy from instructors with different experience levels.

Keywords: Instructional strategies, novice instructors, online learning, higher education

Introduction

Online and distance education postsecondary enrollments continue to grow with increases from 1.98 million in 2003 to 2.35 million in 2004; this growth rate is over ten times that projected by the National Center for Education Statistics for the general postsecondary student population (Allen & Seaman, 2007; Allen & Seaman, 2006). These enrollments are fueled by traditional universities expanding into the e-learning market and the growing online higher education market. Parsad & Lewis (2008) reported, during the 2006-2007 academic year, 66% of 2-year and 4-year Title IV eligible degree-granting institutions offered distance education courses in a variety of formats, to approximately 12.2 million students. The factors having the greatest influence on these colleges' distance education decisions were satisfying student demand for flexible schedules, providing increased access to college, increasing course availability, and increasing student enrollment.

Burgeoning enrollment in e-learning is accompanied by the need to provide the appropriate support infrastructure to manage this continuous growth. This infrastructure includes qualified faculty, who are a critical and core resource to the success of any distance education program (Tabata & Johnsrud, 2008). In an attempt to fill this demand, many traditional higher education institutions are increasingly relying on their core faculty to support this extended teaching mission. For example, 72% of southern higher education institutions report that they are using primarily core faculty to teach their online courses (Joyce & Seaman, 2006). The hiring decisions for virtual universities are based on relevant prior experience, which, depending on institution, may include teaching (Lefebvre, 2008). As virtual institutions are legitimized through regional accreditation (Romero & Haughton, 2008) their demand for qualified faculty – traditional and non-traditional – will also increase.

Traditional faculty bring a wealth of teaching knowledge mostly related to the face-to-face environment. Consequently, many are novices in online education and find themselves in situations where traditional

teaching methods do not translate seamlessly to the online environment. This is because teaching online is quite different from face-to-face teaching (Yoshimura, 2008), requiring a change in pedagogy (Zhao, 2003). This situation presents challenges to their existing practice, requiring among other things, achieving engagement and trust, as well as developing confidence, and all of this without the normal visual cues that traditional instructors are used to relying on (Connolly, Jones, & Jones 2007). Novice online instructors with prior face-to-face experience face similar challenges. However, instructors that are new to teaching in any context are at an even greater disadvantage. Therefore, both sets of educators –faculty with traditional teaching experience and online instructors with minimal to no teaching experience – may be considered novices in this new medium. These novice online educators usually rely on a trial and error process, until they learn to manage the new environment to teach effectively (Moore & Kearsley, 2005).

In order to provide and maintain effective pedagogical standards for the swelling ranks of online instructors, it is necessary to provide the necessary support for novice instructors to be able to make full use of their academic knowledge and expertise into the virtual environment (Shepherd, Alpert & Koeller, 2007). This paper proposes to fill this need by developing and articulating a unified online learning framework that:

1. describes the instructional environment of the online learning course

2. describes the interaction between and among these factors

3. provides instructional prescriptions that serve as scaffolds to support novice online instructors.

Higher Education Online Context

Astin (1970) proposed a model for viewing student development in higher education, by defining the context in terms of student inputs, the environment, and student outcomes. Student inputs refer to the characteristics and potentials that the student brings to the college environment, "the raw materials with which the institution had to deal" (p. 1), which include career choice, career aspirations, and abilities. The college environment includes the aspect of the educational experience that the institution influences and includes the curriculum and teaching practices. Finally, student outputs include the abilities and development measures that the college environment influences, whether deliberate or inadvertently, which typically include achievement, knowledge and skills, values, and aspirations. An adaptation of this model to describe the instructional situation of the online course environment is proposed. Figure 1 shows this instructional context as adapted to the online learning environment. The underlying theory of this proposed framework is that an effective online instructor is able through effective interaction, to engage with the student at critical milestones throughout the course.

Understanding the nature and meaning of student inputs supports the instructor's ability to provide targeted and appropriate feedback that will result in successful outcomes. Student inputs include prior knowledge of the course content, which itself is influenced by a number of other factors such as career goals, professional experience, interest in the content, progress towards educational goals, etc. An effective online instructor should choose appropriate instructional strategies to solicit student inputs. These inputs are then used to understand learner needs and differences, as well as to create an authentic and individualized instructional context that supports the learning of the individual student. These understandings will also allow the instructor to make modifications based on students' prior knowledge of the content, career goals, progress through program, etc. The instructor's interaction strategies and other instructional practices guide the learning of each student within the course. This is achieved by providing targeted and appropriate feedback to students individually and within peer groups. The use of feedback is intended to broadly include any output directed to the individual student by the instructor, including directed peer-to-peer interaction, throughout the course. This leads to a number of positive student short term, course-related outcomes – e.g. academic achievement and engagement – as well as long term outcomes such as program completion thus, mitigating the higher dropout rates associated distance learning (Diaz, 2002; Carr, 2000).

Driscoll (2005) recommended that constructivist-based instructional strategies follow broad principles that include: the embedding of learning in complex, realistic, and relevant environments; providing social negotiation as an integral part of the learning; supporting multiple perspectives and the use of multiple modes of representation; encouraging the ownership of learning; and nurturing self-awareness of the

knowledge construction process. Table 1 details the relationship between student inputs, interaction – which includes the type of information gathered from students, the interaction strategy, and the course components or tools that should be utilized –, and instructor outputs. Instructors use different tools to gather information from students. This information is used to shape the feedback provided to students, which in turn promotes learner awareness over their own learning. An effective instructor is aware of these broad principles as well as their instructional applications within the context of the online course. The nature of student inputs, instructional methods, and student outcomes will vary as the course proceeds. For example, the nature of and goals of the interaction at the beginning of the course will be focused on understanding student inputs and relative strengths and weaknesses. These inputs support the instructor's ability to make, and propose appropriate modifications that will create an individualized learning environment for each student based on prior knowledge of the content, career goals, progress through program, etc. This effective interaction requires the online instructor to understand the role of student inputs – prior knowledge, learning style, etc. – and the instructor's own outputs – outcomes from instructional strategies – in the learning process.
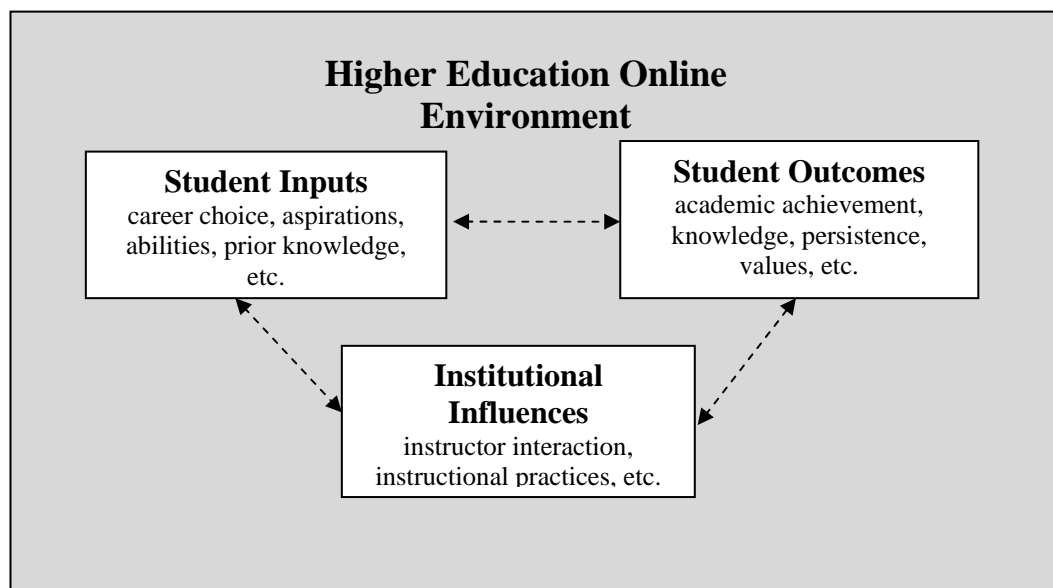

Figure 1. *The Higher Education Online Environment Adapted From Astin (1970)*

Application of the Online Instructional Framework

The higher education online environment framework was applied while teaching a graduate-level course in quantitative research methods at several major online universities. The major outcome of this three-credit, 16-week course is the development of a research proposal. The course is taught twice a year, and typically enrolls between 16 and 20 students from diverse majors including nursing, education and business.

Prior Knowledge

To solicit information about the prior knowledge related to this content, students were asked to use the introductory discussion board to introduce themselves to the instructor and classmates, as well as provide reasons for taking the course. This discussion allowed students to express their interest, experience, prior research courses taken, strengths, weaknesses, and fears. Some of the information gathered was related to the fear of processing statistical data and the writing skills needed to develop a research proposal. This input was used to direct students to institutional and external resources that helped them to acquire the additional pre-requisite skills and other instructional support needed for the course. Most importantly, these inputs were used by the instructor to create a structured experience for each student based on respective inputs.

Table 1. *Student Inputs, Instructional Strategies, and Instructional Outputs*

Student Inputs		Instructional Strategies		Instructional Outputs
Type of Input	**Type of Information**	**Interaction Strategy**	**Course Components/Tools**	
Prior knowledge	Prior courses & experience within topic area	Introductions & prior courses / prerequisites	Discussion board; Email; Chats; Personal Web Pages	Gaps in knowledge; Curricular support (articles, web sites); restructure components
Self-efficacy with the online environment	Prior online experience; computer skills & access;	Ice breakers; peer-to-peer discussion	Discussion board; Email; Private folders	Curricular support (articles, web sites); Library seminars; web sites; help desk & support resources; peer-to-peer support
Self-efficacy with instructional content	Intimidating course components; change of area of study; years out of the formal school	Ice breaker discussion; small group introduction; peer-to-peer discussion boards	Discussion board; Email; private folders	Curricular support additional supporting materials; re-statement of objectives and resources; provide rubrics and scoring guides
Learning style	Field Dependent / Independent; visual, oral, auditory, verbal, (multiple intelligences)	Give test; solicit information about learning styles; gauge behavior from interaction activities; inventories	Small group introduction; peer-to-peer discussion boards; discussion board; Email; private folders	Support; flexible strategies; multiple learning paths/pathways; multiple learning objects (video; audio; document; simulations. etc.)
Confusing Content	What content is confusing; why content is confusing	Discussing sequencing of course including assignments; discuss grading criteria, cognitive load issues	Small group discussions; peer-to-peer discussion boards; discussion boards; private email & chat with individuals; private folders	Re-sequence content; make suggestions related to cognitive load; provide additional material; modify content; modify rubrics; restructure assignments
Assignments	Requirements are understood Students are prepared (content covered)	Contextualize assignment; explain alignment of content with assessment; discuss assessment and grading criteria	small group discussions; peer-to-peer discussion boards; discussion board; private email & chat with individuals; private folders	Criterion-based; ensure multiple types of assessments (learning styles); use authentic assessments; provide scoring guides; additional opportunities to improve/re-submit; accept assignment drafts; peer assessments and revisions
Engagement / Isolation	Feelings of isolation	Need to feel the presence of classmates and instructor; support from peers; successful experiences on face-to-face learning, and group assignments; maintain privacy & dignity of students	Periodic ice-breakers; small group discussions; peer-to-peer discussion boards; private email & chat with individuals; private folders	Ensure constant interaction with peers; periodic interaction with individual students; gauge involvement; follow-up using multiple means – phone; text; email; letter; etc.

Efficacy with the Online Environment and Instructional Content

A peer-to-peer discussion board was used to gather input about the efficacy of learners within the online environment, and with the instructional content. This strategy may be used with all students on one discussion board or with groups of students on multiple boards. The discussion was available throughout the course and allowed students to post questions and comments that ranged from defining specific content-related concepts to providing strategies on how to tackle the content and assignments. This strategy supported the generation of constant and rich discussions in a non-threatening environment where all questions were welcomed, and answered. It also provided support to less experienced online learners to engage with their peers throughout the course while developing expertise within the online environment. Moreover, this level and type of interaction was an attempt to create a level of collegiality typically associated with the face-to-face environment.

These inputs enabled the instructor to respond to student needs with the appropriate instructional strategies. These included appropriate chunking of content, using multiple media and courses of representation, and using authentic assessments that supported multiple interpretations and modes representations. These student inputs were also used to establish follow-up communication with individual students, as well as provide additional supporting materials and grading criteria to guide students throughout the course.

Learning Style

Input about the learning style was gauged from participation of students in the introductory and peer-to-peer boards. For example, some students experienced difficulty in understanding the meaning of negative and positive correlations from the instructional material. It was determined that in this case, students needed a visual cue to support their understanding of the meaning and application of this key research concept. Therefore, this input was used to suggest the incorporation of graphics and figures to accompany the content and data. Also, the instructor provided additional resources and learning objects that provided multiple representations of this and other key concepts and content. The use of learning style inventories can also improve the instructor's understanding of students' approach to learning. This student input supports the instructor's ability to further structure the online learning environment to optimize learning opportunities and support for all students.

Confusing Content

Confusing content was determined by providing students the opportunity to make comments on the post-assessment feedback provided by the instructor. The instructor devised a feedback tool in the form of a three-column matrix tool that facilitated a two-way conversation. The left-most column contained the criteria, the middle column the instructor comments for each criterion, and the third column student feedback for each criterion. Data derived from this tool allowed students to provide feedback on a number of issues including the sequencing of the content, difficult areas, cognitive overload of information, and time allotted for each instructional segment. These inputs were used by instructor to propose instructional changes to the course such as re-sequencing and modifying content.

Confusing Assignments

The above-described post-assessment tool was also used to identify confusing assignments. The resulting evidence provides additional feedback related to content-related difficulties as well as the coherence between the content and respective assignments, including their effectiveness. Accordingly, these inputs were also used by instructor to propose instructional changes, which includes improving the alignment of assessment tasks, and providing clearer assessment criteria and rubrics.

Engagement and Isolation

A weekly scheduled open chat with the instructor was an effective strategy for determining the students' level of engagement, as well as feelings of isolation. These chats provide additional support to students on a variety of issues that may impact their performance in the course. As the course progresses, students are more likely to express needs and concerns to the instructor and/or their peers. Students who systematically miss these sessions and those who are experiencing difficulties with the course may be contacted directly using a variety of communication tools such as private emails and even telephone

calls. This minimizes dropout as well as falling behind in the course. These inputs may also be used to support course improvements such as additional group discussions and extended the times for chats sessions.

Discussion and Future Research

This paper proposed and articulated a unified online learning framework that described the instructional environment of the online learning course in terms of student inputs, institutional influences, and outcomes, as well as the interaction between and among these factors. The underlying theory of this proposed framework is that an effective online instructor is able to, through effective interaction, engage with the student at critical milestones throughout the course. Thus, a number of strategies based on authentic examples, were articulated. These include the use of course tools to gather critical input from students and the use of student inputs to engage with individual students, as well as provide justification for course improvement. Future research includes broader application of this framework and gathering feedback on its efficacy from instructors with different experience levels. These inputs will contribute to the further refinement and application of this framework that will in turn support the professional development of novice instructors to become effective online educators.

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