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Internet-based Education in the Era of Prescribed and Measurable Standards and Criteria

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ABSTRACT

This article proposes a framework for evaluating the effectiveness of academic courses delivered over the Internet or Internet-based Distance Education (IDE). It first examines the standards set for teaching in the traditional face-to-face setting; it then reviews experiments that examined whether those same standards can be applied to IDE. Finally, it offers a series of measures that can be applied to determine the degree of success resulting from IDE. This article draws upon theoretical and empirical work in distance education, learning, instructional design, information technology, and empirical studies. The intended results are to enable a more informed evaluation of IDE and to establish a series of guidelines for effectively utilizing this media to meet or exceed established standards.

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Introduction

Nearly two decades ago, the American Association for Higher Education (AAHE) and the Johnson Foundation cosponsored a report on successful practices in undergraduate education. The result was the Seven Principles of Good Practice (Chickering & Gamson, 1987).

Table. 1

Table, 1		
Principle	Rationale	
1. Encourage	Frequent contact both in and	
contact between students	outside of class is an important factor in	
and faculty	student motivation and involvement	
2. Develop	Faculty should facilitate	
reciprocity and	collaborative learning among students	
cooperation among		
students		
3. Encourage active	Require students to apply their	
learning	learning in oral and written form	
4. Provide	Students need help assessing their	
appropriate and prompt	performance and need suggestions for	
feedback	improvement	
5. Require time	Setting realistic times for	
management	assignments and sticking to due dates	
	helps students in the long run	
6. Set and	This can be a self-fulfilling	
communicate high	prophecy where students rise to the	
expectations for students	challenge	
7. Respect diverse	Varying style of presentation and	
talents and methods of	type of assignment allows students to	
learning	learn in ways that work for them	

Based upon Chickering & Gamson (1987)

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The authors validated and extended their seven principles after reviewing the results of student feedback, workshops, and personnel effectiveness assessments from professionals.

Currently, similar goals are sought through "standards and criteria." For example, the Accreditation Council for Business Schools and Programs (ACBSP) has proffered six (6) measures by which institutions can achieve ACBSP membership by demonstrating compliance with its accreditation standards:

Standard #1. Leadership;

Standard # 2. Strategic Planning;

Standard # 3. Student and Shareholder Focus;

Standard # 4. Measurement and Analysis of Student Learning and Performance;

Standard # 5. Faculty and Staff Focus;

Standard # 6. Education and Business Process Management.

This paper examines the role of Internet-based Distance Education (IDE) in this era of measurable standards and criteria.

IDE Scenario

IDE incorporates separation of instructor and student, use of communication media, and two-way communication between instructor and student.

Within an online learning environment, the instructor and student are separated in space. This absence of a fixed meeting place allows flexibility in educational activities. If this spatial separation is accompanied by temporal separation the process is called asynchronous distance education. The limitations inherent in the separation of student and instructor are addressed by the selection and use of communication media. If this is two-way communication, the student is part of an organized educational process; if not, the student is pursuing a form of self-improvement.

The selection of learning environment and communication media should not be made without a thorough study of the subject matter intended to be conveyed. In courses like Computer Literacy, for example, the medium is the message. Presenting these courses online presents unique challenges.

The first question to ask is whether the context determines the nature of the knowledge to be learned. This is an important question because different sets of contextual practice related to the knowledge in question need to be acquired in order for learning to be successful. Two established theories addressing these issues are Media Richness Theory (MRT) and Media Synchronicity Theory (MST).

MRT was developed to explain how managers/instructors choose communications media. It proposes that information is conveyed to reduce uncertainty and reduce equivocality. Uncertainty is the result of the absence of complete information; equivocality is the result of multiple interpretations of the same information. The criteria for classifying media "richness" (information-carrying capacity) include the availability of immediate feedback, the number of channels utilized, personalization, and language variety.

There is empirical support for matching communications media with subject matter that has been analyzed in order to prescribe a media fit

MRT suggests media of higher richness are the most effective when the purpose is to minimize equivocal interpretations of the information conveyed. Face to Face (F2F) communication offers immediate feedback and can use multiple channels of communication (verbal, body language, facial expressions). It is the richest medium.

Media Synchronicity Theory (MST) is a second established theory. Under MST, communication has two fundamental purposes, conveyance and convergence.

Conveyance is the distribution of as much relevant information as possible to aid understanding.

Convergence seeks understanding each individual's interpretation of information – not the information itself.

This MST dichotomy of purpose is consistent with the two major classes learning models that seek to describe and predict how learning occurs: objectivism and constructivism.

Objectivism argues that the goal of learning is to understand the objective reality and act accordingly. This class of learning models implies that the goal of communicating is to effectively and efficiently transmit unambiguous knowledge from the instructor to the student.

This model has been incorporated into the Learning Object approach.

Constructivism holds that the mind should not reproduce an external reality but rather produce its own conception of events. Students analyze different interpretations of information, form abstract concepts to represent reality, and actively participate in their learning process. The communicator is really a mediator.

MST suggests that there are five media characteristics that can affect communication. These characteristics are: immediacy of feedback, symbol variety, parallelism, rehearsability, and reprocessability. These five concepts are defined below. Immediacy of feedback is the degree to which the medium supports rapid response to the communications received.

Symbol variety is the way or ways through which the medium can communicate information.

Parallelism is the ability of the medium to support multiple conversations simultaneously.

Rehearsability is the extent to which the medium enables the senders to fine-tune their messages before sending them.

Reprocessability is the extent to which a message can be reexamined within the context of the communication event.

Analysis of purpose of the communication is essential.

If the purpose is "conveyance", media should be chosen that exhibit low immediacy of feedback and high reprocessability. This enables delivering the maximum amount of information with the minimum amount of feedback while allowing the information to be reexamined within the communication event. Example: online classes

If the purpose of the communication is "convergence", media should be chosen that have high immediacy of feedback and high parallelism. Immediate feedback and support for multiple simultaneous conversations can lead to a shared interpretation of the information communicated – the goal of convergence. Example: F2F classes

These characteristics are summarized in Table 2. [7]

Table. 2	
CONVEYANCE distribute high	CONVERGENCE study
quantity of information for	each individual's
understanding	interpretation
Feedback low	Feedback high
Symbol Variety low	Symbol Variety high
Parallelism high	Parallelism low
Rehearsability low	Rehearsability high
Reprocessability high	Reprocessability high
ONLINE	F2F

The selection and use of communications media for online educational technologies must be made with an awareness that these media are in flux. Specialized course authoring packages such as Blackboard are in competition with other course management systems and with packages developed in-house by colleges, universities, and publishers (e.g., Pearson). All must also contend with newsgroups, Web pages, email distribution lists, and the like.

In addition, online courses must be revised unlike F2F courses that evolve naturally. While instructors in F2F courses add things that work and discard thing that don't, instructors in online courses deal with a main body of established material. It is necessary to revise the ways in which that material is used to accommodate different times, different students, and different circumstances.

Application / Conclusion

If the purpose of communication is to achieve and demonstrate adherence to prescribed standards, it is one of "conveyance." Media of low feedback and high parallelism are better for conveyance processes. Therefore, capstone courses that are assessed for compliance with standards should be conveyed online. It is the best media for conveying high quantities of relevant information in a format that allows review and study by the students who must be assessed for compliance.

If the purpose of information is to promote critical thinking, it is on of "convergence." Media of high feedback that supports multiple conversations are better for the convergence processes. F2F provides immediate feedback and support for multiple simultaneous conversations that can lead to a shared interpretation of the information communicated, F2F also offers high symbol variety - verbal, body language, facial expressions – to convey a variety of concepts.

Courses are currently assessed for which learning outcomes they fulfill in order to demonstrate compliance with standards and other criteria. They should be offered through a delivery system-online, F2F, or some combination -consistent with their purposes.

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