

## Conducting Learner Analysis to Adjust Online Instruction for Your Faceless Learners

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### Online Distance Education

Distance education is defined as "any formal approach to learning in which a majority of the instruction occurs while educator and learner are at a distance from one another" (Verduin & Clark, 1991, p. 8). Various technologies are used as the delivery media in distance education. Education or training courses can be delivered to remote locations "via audio, video, or computer technologies including both synchronous and asynchronous instruction" (NECS, 1999). Since the early 1990s, asynchronously delivered Internet-based online distance education has, due to its time and geographic flexibility, appealed to working adult learners who work full-time and hope to participate in continuous education as part-time students. According to the NCES's statistical annual report (1999), the Internet technology is one of the fastest growing delivery modes for postsecondary distance education.

### Fighting the Drop-out Problem

A problem in adult distance education has been a high turnover in enrollment. Retention of distance education learners is known to be usually lower than retention of on-campus learners (Kember, 1995; Verduin & Clark, 1991). Kember (1995) reports that within a course, attrition is much higher at the beginning of the course than towards the end of the course. The steep attrition slope is also shown within an entire online degree program – i.e., more students drop out of the online degree program after the first couple of online courses than after they have taken a number of online courses (Fenner, 1998, 2000).

### What Causes Dropouts? - Theory into Practice

If adult learners find online distance education as a convenient method to reach their goals of learning, why would they drop out of the online course or online degree program before completing them? Reasons for dropouts are found to be various. It has been reported in the distance education literature that adult learners tend to drop out of distance education courses or programs when:

- they perceive that their interests and the course structure do not match (Bartles, 1982 cited in McCreary 1990; Fenner, 1998).
- they are not confident enough in learning in distance environments (Chacon-Duque, 1987).
- they have learned what they wanted and they lost motivation to continue to learn (Holmberg, 1989 cited in Verduin & Clark, 1991).

The above factors have been found to be the causes for dropouts in online distance education as well (Chyung, 1999, 2001). More specifically, online learners tend to drop out when they perceive that:

- online learning environment and instructional presentations are not **attractive** to them,
- what they learn from the online instruction is not **relevant** to their interests or goals,
- they are not **confident** enough to become a successful online learner, and
- they have low **satisfaction** levels toward the online learning environment.

The above four factors (attention, relevance, confidence, and satisfaction) are discussed in John Keller's ARCS model (Keller, 1987). Keller explains that the four factors influence the degree of learners'

motivation to learn. Keller argues that in order to help learners become motivated to learn, instructors should consider improving the motivational appeal of the instruction by focusing on the four factors.

### **How Do We Design Online Instruction to Be Appealing to Learners? – Start with Learner Analyses**

A way to reduce the number of dropouts of online learners is to restructure the online instructional system based on the four motivational factors and to provide motivationally appealing online instruction to learners. However, one of the difficulties in designing motivationally appealing online instruction is that the online learning environments are often asynchronous and faceless. Instructors do not see their online learners, even when learners feel alone, lost, overwhelmed, bored, dehumanized, and dissatisfied. Those learners are at risk of quitting, which contributes to the high dropout rate found in online distance education unless timely and effective interventions are implemented. Therefore, it is very critical to conduct ongoing learner analyses and implement systemic and just-in-time interventions.

#### **Conducting Learner Analyses**

The ARCS model is an effective guideline for online instructors who wish to conduct learner analysis and modify their online instruction to improve its motivational appeal to individual learners. The information presented in the following section is based on the author's years of experience in designing graduate-level online courses at Boise State University and her success in delivering motivationally appealing online instruction to adult learners and reducing the dropout rate (Chyung, 1999, 2001).

#### **Tools for Assessing Online Learners**

Adjusting online instruction for learners does not mean just changing instructional information. It means systemically restructuring the instructional system. One of the first steps is to conduct learner analyses. The most important principle in conducting learner analyses is not to assume anything about your learners unless you have a well-established norm for the particular learner population. Before and as soon as a semester starts, try to learn as much as you can about your online learners. You may focus on three major categories when conducting learner analyses: technical status, cognitive status, and affective status. For example, some of your learners may tend to be confused by computer jargon and frustrated by their inability to follow complicated technical steps. Learners' entry-knowledge levels can also vary. There may be novice learners while there are some advanced learners who already have relevant background knowledge and skills. Remember that online classrooms are not just for cognitive development; they are also emotional and social environments. Help your learners perceive that they are in a non-threatening and rewarding learning environment. Table 1 is a summary of the assessment categories and methods, and the data about characteristics of your online learners that you may obtain from initial learner analyses.

Table 1. Assessment Categories, Data, and Methods.

<b>Category of Assessment</b>	<b>Data to Obtain</b>	<b>Assessment Methods</b>
Online Learners' Technical Status	<ul style="list-style-type: none"> <li>• Technical equipment currently available to each learner</li> <li>• Online learners' current technical knowledge and skills</li> </ul>	<ul style="list-style-type: none"> <li>• Equipment availability checklist. e.g., <a href="http://coen.boisestate.edu/dep/ipt/de_c hecklist.htm">http://coen.boisestate.edu/dep/ipt/de_c hecklist.htm</a></li> <li>• Technical training (see Winiecki &amp; Chyung, 2000)</li> </ul>
Online Learners' Cognitive Status	<ul style="list-style-type: none"> <li>• Current knowledge level and confidence level toward the learning subject</li> </ul>	<ul style="list-style-type: none"> <li>• Entry-knowledge assessment</li> <li>• Confidence level assessment</li> </ul>
Online Learners' Affective Status	<ul style="list-style-type: none"> <li>• Learners' age, gender, previous educational background, previous online</li> </ul>	<ul style="list-style-type: none"> <li>• Review of biographic profiles</li> <li>• Learning styles assessment: e.g.,</li> </ul>

	learning experience, professional background, family/cultural background, personal and professional interests, academic goals, behavioral tendencies (e.g., introvert or extrovert), current on-line behaviors, etc.	<a href="http://coen.boisestate.edu/dep/ipt/lisa.htm">http://coen.boisestate.edu/dep/ipt/lisa.htm</a> <ul style="list-style-type: none"> <li>• Observations of online behavior</li> <li>• Ask them!</li> </ul>
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Based upon the data you obtained from your initial learner analyses, carefully design and implement appropriate intervention strategies. Remember that your interventions are targeted at improving and maintaining *the motivational appeal* of your online instruction by providing more adaptive instruction to your learners, and ultimately reducing the number of dropouts. Therefore, you should conduct an ongoing process of analyses and implementations throughout the course of instruction.

### **Implementing Intervention Strategies**

Table 2 below provides a summary of suggested intervention strategies to be implemented based on frequently exhibited characteristics of the first-time online learners. The third column of the table indicates the main targeted factor(s) to improve the motivational appeal of the online instruction (A: Attention, R: Relevance, C: Confidence, and S: Satisfaction).

Table 2. Online Interventions Strategies based on the ARCS Model.

Potential Learner Characteristics	Suggested Intervention Strategies	Targeted Motivational Factors			
		A	R	C	S
Learners are new to the online learning environment and they do not know how to behave in an online learning environment.	<ul style="list-style-type: none"> <li>Keep the size of your online class small (less than 17 students).</li> </ul>			*	*
	<ul style="list-style-type: none"> <li>Provide examples of exemplary online behaviors and examples of undesirable online behaviors up front.</li> </ul>		*	*	
	<ul style="list-style-type: none"> <li>Monitor individual learners' online behaviors and provide frequent feedback to reinforce good online behaviors and/or modify undesirable online behaviors. Avoid being evaluative; try to be supportive and specific in feedback.</li> </ul>	*		*	
	<ul style="list-style-type: none"> <li>Provide a private online discussion area for each learner and the instructor so that the learner can easily contact the instructor and ask for advice privately.</li> <li>Manage online communication conflict situations immediately and privately.</li> </ul>	*		*	*
Learners are not knowledgeable of using the Internet-based media technology as a learning tool.	<ul style="list-style-type: none"> <li>Provide learners with a technical training program and help them master the basic technical skills prior to the first online class.</li> <li>Provide ongoing technical support in a timely fashion.</li> </ul>			*	*
Learners are new to the field (i.e., new to the learning subject matter).	<ul style="list-style-type: none"> <li>Provide structured and spiral instruction: easy to difficult, simple to complex, concrete to abstract.</li> </ul>			*	*
	<ul style="list-style-type: none"> <li>Provide alternative assignments and have learners choose a method to accomplish a learning goal.</li> </ul>	*	*		
Learners are different in terms of the entry knowledge levels.	<ul style="list-style-type: none"> <li>Conduct an entry knowledge assessment and use the data to adjust the level of difficulties in instruction for the learners.</li> <li>Provide assignments that are not too easy, not too hard, but challenging enough for their entry knowledge levels.</li> </ul>		*	*	
Learners have different personal, professional interests and goals.	<ul style="list-style-type: none"> <li>Obtain individual learners' demographic background information before and/or as soon as the semester starts.</li> <li>Provide various examples during instruction that are relevant to the learners' interests and background.</li> </ul>	*	*		*
Learners are goal-oriented.	<ul style="list-style-type: none"> <li>Provide clearly stated weekly goals and objectives and explain why it is important to achieve the goals.</li> <li>Clearly state how learners will be evaluated.</li> </ul>	*	*		

	<ul style="list-style-type: none"> <li>• Provide specific guidance on how to successfully accomplish the goals.</li> <li>• Provide concrete and timely feedback on how they are doing.</li> </ul>			*	*
Learners are highly achievement-oriented.	<ul style="list-style-type: none"> <li>• Provide frequent and constructive feedback to learners on a regular basis and let them know how well they are doing.</li> </ul>		*		*
	<ul style="list-style-type: none"> <li>• Assign a special assignment (e.g., assign as a team leader or a discussion wrap-up person).</li> <li>• Return the result of the exam or the review of the term paper in a timely manner.</li> <li>• Publicly post exemplary answers or papers.</li> </ul>	*	*		
Learners have different preferences in the types of learning.	<ul style="list-style-type: none"> <li>• Provide various learning activities and multimedia components, and allow learners to select their preferred activities.</li> </ul>	*	*		
Learners miss personal contact with the instructor.	<ul style="list-style-type: none"> <li>• Make personal contact with each learner using a personal online discussion area, email and/or telephone.</li> <li>• Frequently address each learner with his or her name in online dialogues.</li> </ul>	*			*
Learners miss social interactions with classmates	<ul style="list-style-type: none"> <li>• Assign paired or group activities.</li> <li>• Encourage collaborative work.</li> <li>• Provide a virtual hallway area, a virtual congratulation bulletin board and a virtual student union area.</li> <li>• Encourage sharing their photos.</li> </ul>	*			*

### Evaluating the Outcomes

The impact of the above interventions implemented in Boise State University's Master's degree online program has been significantly positive. The online program has significantly increased the student retention rate over the 3 year period (Chyung, 1999, 2001). More information about the evaluation outcomes will be described in the presentation.

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### Biographical Sketch

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