

# Understanding Different Categories of Attrition in Distance Education Programs

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## INTRODUCTION: ATTRITION IN DISTANCE LEARNING PROGRAMS

Distance learning is often referred to as taking training or education courses that are either synchronously or asynchronously delivered via various media such as audio, video, or computer, especially Internet technologies in recent years. The number of corporate training programs delivered via Internet technologies (a.k.a., e-learning) has dramatically increased over the last several years. According to ASTD reports (2002, 2003), the percentage of e-learning programs delivered in the Benchmark Service companies in the U.S. increased from 8.8% of total training hours in 2000 to 10.5% in 2001. The number of distance programs offered at degree-granting educational institutions in the U.S. has also gradually increased each year. According to the National Center for Education Statistics (2003), 56% of two-year or four-year degree-granting educational institutions offered distance education (DE) courses during the 12-month 2000-2001 academic year, and during the time period, about 2.8 million students were enrolled in college-level credit-granting DE courses, the majority of which were Internet-based courses. Internet-delivered instruction has gained credibility during recent years as well. Research has shown that there seems to be no significant difference in terms of the effectiveness of instruction delivered in traditional classroom settings and the effectiveness of instruction delivered via the Internet (van Schaik, Barker & Beckstrand, 2003). Such research findings, coupled with potential benefits such as cost-effectiveness and convenience, have likely contributed to the increasing popularity of Internet-delivered distance learning programs.

Despite the increased enrollment and the potential benefits, high attrition is a common problem in many distance learning programs, although the degree of the problems may vary. 'Abandoning' behavior has often

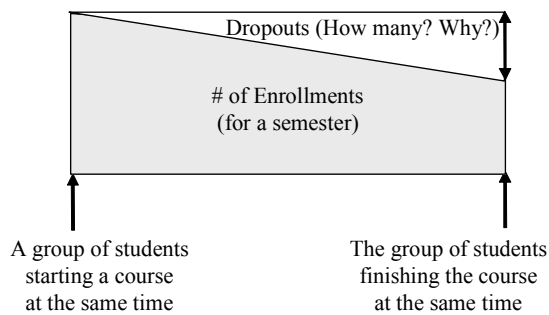
been reported as a problem in corporate e-learning programs (Frankola, 2001; Wang, Foucar-Szocki, Griffin, O'Connor & Sceiford, 2003; Zielinski, 2000). Numerous studies concerning attrition problems in DE courses have also been conducted in various parts of the world such as Australia (Thompson, 1999), Greece (Xenos, Pierrakeas & Pintelas, 2002), Hong Kong (Shin & Chan, 2004), Israel (Romi, Hansenson & Hansenson, 2002), the United Kingdom (Woodley, de Lange & Tanewski, 2001), and the United States (Chyung, 2001, 2004; Muse, 2003; Parker, 1999; Rovai, 2002; Terry, 2001).

This article will present a review of research on attrition in DE programs in higher education, and then provide definitions and applications of different categories of attrition in DE. The focus of the literature review will be on DE programs delivered via the Internet, since the Internet has become the de facto primary mode of delivery for DE. This information will help DE practitioners gain a clear understanding about different types of attrition that they may face and assist them in designing a strategic plan to deal with their specific attrition problems.

## ATTRITION FROM A DE COURSE

A critical step in investigating attrition in DE programs is to establish an operational definition of attrition, which is quite simple to do for a short-term e-learning course or a semester-long DE course. Attrition in a course is measured by comparing the number of enrollments in the beginning of the course to the number of enrollments at the end of the course (see Figure 1). An exit interview or survey can be conducted to reveal the reasons for attrition. A correlation study may be conducted to show if students' drop-out behavior can be predicted by specific variables such as age, previous computer experience, GPA, intrinsic

Figure 1. Studying drop-outs in a semester-long course



vs. extrinsic motivation, financial status, or other factors.

Numerous studies have been conducted to better understand attrition problems in DE courses. Various factors have been studied as possible contributing variables to attrition. To name a few: learners' demographic characteristics such as age or gender (Waschull, 2001), computer self-efficacy (Lim, 2001), computer ownership and attitudes toward computer-delivered learning (Romi et al., 2002), perceived confidence level (Xenos et al., 2002), a sense of community (Rovai, 2002), environmental barriers (Muse, 2003; Thompson, 1999), and locus of control and financial support (Parker, 1999).

For example, in Parker's study (1999), three one-semester-long community college courses were used to study variables for predicting drop-outs. The researcher concluded that drop-outs could be predicted with two variables—locus of control and source of financial assistance (especially self-pay)—with 84.4% accuracy.

In Thompson's study (1999), the researcher studied if sub-scales of the Distance Education Student Progress (DESP) Inventory developed by Kember, Lai, Murphy, Siaw, and Yuen (Kember, 1995) might be useful predictors for attrition. She used a dichotomous approach in defining continuing students (i.e., students who continued with all of the units in which they enrolled) and discontinuing students (i.e., students who withdrew from at least one unit). She found that actual student withdrawal was significantly and positively correlated with four sub-scales of the DESP Inventory—that is, insufficient time,

events hindering study, negative impression of the course, and potential for drop-out.

Waschull's study (2001) compared the difference in attrition that occurred in an on-campus course and an online course on the topic of Psychology. The researcher reported that students who dropped from an online course and those who dropped from an on-campus course were not significantly different in terms of their race, gender, and age, whether they voluntarily enrolled in or were administratively assigned to take one of the types of the course.

Terry (2001) compared enrollment and attrition rates for 15 MBA on-campus and online courses. For research purposes, the researcher calculated the enrollment and attrition rates based on the first class day instead of the administrative drop deadline of twelfth class day. The researcher found out that although the enrollment rates in online courses were higher than the traditional classroom-based courses, which seems to support the notion that students tend to prefer an online format to an on-campus format due to its convenience, the attrition rate was also higher in 13 out of 15 online courses. A noticeable finding was that there was a substantial amount of attrition in online courses on Statistical Methods in Business, Corporate Finance, and Quantitative Analysis in Business (43%, 36%, and 30%, respectively), but their counterpart on-campus courses did not suffer such high drop-outs (13%, 23%, and 17%, respectively).

Xenos et al. (2002) studied student drop-outs from an undergraduate-level 'informatics' course. The research showed a strong correlation between drop-outs and students' age, their previous education in the field of Informatics, and their experience in working with computers (but not necessarily the degree of specialization in computers). Follow-up interviews revealed that the main reasons for dropping out were underestimation of the time required for studying and the perceived difficulty of the course.

Rovai (2002) found a relationship between online learners' sense of community and their cognitive learning in a graduate-level asynchronous learning environment used in his study. He found that online learners who had stronger feelings of community and greater cognitive learning experienced less feelings of isolation, which he suggested could possibly result in fewer drop-outs.

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