

Distance Education Learning Environments in Higher Education: Associations between the Psychosocial Environment and Student Attitude

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ABSTRACT

This study included the development and validation of a learning environment instrument for post-secondary distance education. Six psychosocial scales were defined and analysed for associations with student attitude. Personal relevance demonstrated the strongest association.

PROBLEM STATEMENT

This study considers the question of the influence of post-secondary distance education psychosocial learning environment factors on student attitude. Three objectives were 1) to develop and validate a learning environment instrument, 2) to describe the learning environment perceptions of students and instructors in courses delivered by distance, and 3) to identify associations between student attitudes and psychosocial learning environment factors in distance education.

THEORETICAL FRAMEWORK

The term “*learning environment*” carries with it a variety of meanings. It has been used to indicate a type of learning task, to refer to the classroom psychosocial environment, and to denote virtual spaces found in computer applications and on the Internet. In this study, *learning environments* refers exclusively to psychosocial classroom environments.

Learning environments research can be traced to Lewin's classic human behaviour definition represented by $B=f(P,E)$, whereby B represents behaviour, f is function, P is person, and E is person's environment. Lewin noted that every scientific psychology must take into account whole situations, *i.e.*, the state of both person and environment. Thus, determinants of B are describable by composite measures of P and E . Lewin's purpose for this definition was to conceptualise human behaviour with new strategies in psychological research where functional relationships and states of interaction are emphasized over those of correlation of disjointed responses derived from isolated stimuli—the prevailing psychological trend of the time.

Through the study of educational environments, students and teachers define their environment based upon their perceptions. Students, with their distinctive frame of reference generated from spending numerous hours as learners, have a large interest in what is going on around them in their educational environments and their reactions to and perceptions of school experiences are significant given that environments, like people, take on distinctive personalities. Likewise, there is an association between students' psychosocial characteristics of their classrooms and their learning achievements and viewpoints. Instructors, on the other hand, can utilize learning environments research to discover differences between their perceptions and those of their students and then attempt to make improvements in the actual classroom environment based upon the preferences of students.

METHODS and PROCEDURE

The design, development and validation of the Distance Education Learning Environment Survey (DELES) was guided by consistency with learning environments research literature, consistency with previously developed learning environments instruments, and characteristics of relevance to distance education learning environments.

In brief, the survey was developed and validated in three stages. Stage one included identification of salient scales within three social organization dimensions of *Relationship*, *Personal Development*, and *System Maintenance and Change*. It also included a non-learning environments measure of *student satisfaction*, which was analysed for associations between student enjoyment in relation to learning environment factors after the instrument was validated. Stage two involved writing individual items within the scales. The items were face validated by an international panel of experts/practitioners. Stage three involved a pilot and a field test of items, followed by item analyses for reliability and validity, resulting in a valid learning environments instrument and data.

RESULTS and CONCLUSIONS

The field test resulted in 680 responses from 13 countries, primarily the United States, Australia, New Zealand, and Canada. The 56 field tested items were reduced to 42 items in seven scales after principle component factor analysis and internal consistency reliability (Chronbach's alpha) analysis. The items with factor loadings = 0.55 within their

own scales were kept. Items with factor loadings < 0.55 were discarded. For the seven scales, the alpha reliability coefficient ranged from 0.75 to 0.95.

When analysing associations between the attitude scale (enjoyment of distance education) and the six psychosocial scales, the correlations ranged from $r = 0.12$ to 0.31 with the scale of personal relevance having the strongest individual correlation. Regression coefficients ranged from $\beta = 0.00$ to 0.23 , again with the scale of personal relevance having the strongest association, followed by authenticity in learning with $\beta = 0.16$, when all other psychosocial scales are mutually controlled. Table 1 presents the results.

Table 1. Association between six DELES scales and student satisfaction using simple correlations (r) and standardized regression coefficients (β).

Psychosocial Scale	r	β
Instructor Support	.25**	.12**
Student Interaction & Collaboration	.23**	.14**
Personal Relevance	.31**	.23**
Authentic Learning	.28**	.16**
Active Learning	.12**	.00
Student Autonomy	.24**	.11**
Multiple correlation (R) R ² coefficient		.46** .21**

N=680 individuals, **p<.01

CONCLUSION

Studies of student and faculty satisfaction in distance education have been well documented, however, it must be considered that students who prefer working in distance education settings often seek them out and are the ones who are most successful in them. It is also noteworthy that there are few significant studies that tie instructional strategies to effective changes in student attitudes. Seeking to discover relationships between positive student attitudes and determinants of their psychosocial environment can possibly lead to favourable changes in distance education environments. Yet, no studies in distance education learning environments involve attempts to make these associations.

Student satisfaction is used consistently in post-secondary education to measure how effectively a program or institution delivers what students expect, need, and want, and is associated with student achievement. Student satisfaction is also a key indicator of education quality and can be measured for strength in relation to learning environment characteristics. With the addition of an attitudinal scale to a psychosocial learning environments instrument the relationship between learners' attitudes and their perceptions of the psychosocial learning environment can be measured. The availability of a Distance Education Learning Environments Survey (DELES) enables practitioners and researchers to examine educational learning environments in association with student attitudes in tertiary education settings with an altogether new for a broad audience.