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ABSTRACT

This study examined the functional relationships among motivation, perceived classroom environment, and student satisfaction, for three major curricular groups: arts and leisure programs, personal development programs, and professional development programs. The sample included 1,180 students enrolled in noncredit courses at the College of Continuing Education and Community Service at the University of Hawaii. The study empirically validated R. Boshier's Education Participation Scale and G. Darkenwald's Adult Classroom Environment Scale with a relatively large sample of students who voluntarily participated in their learning experiences and who were primarily motivated by the desire to satisfy the need to know, unaffected by grades or the requirements of a degree program. Findings revealed that each curricular group had a distinctive set of student characteristics and reasons for participation, and preferred particular kinds of classroom environments which emphasized a different mix of environmental domains. Results confirmed the multidimensional nature of satisfaction, and suggested that certain types of learning environments may be more satisfying to students with certain types of learning motivations. (Contains 30 references.) (JDD)

THE EFFECTS OF MOTIVATION AND CLASSROOM ENVIRONMENT ON THE SATISFACTION OF NONCREDIT CONTINUING EDUCATION STUDENTS

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Jean Endo
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Abstract: Defining organizational objectives, ordering priorities in relation to costs and benefits, and measuring progress is difficult in higher education because of the complexities involved in evaluating program effectiveness. In spite of these difficulties, the problem of measuring performance must be solved in ways that can yield meaningful results for administrators, educators, and the various constituencies they serve. This study provides an overview of the process of assessing institutional effectiveness relative to student outcomes in an adult continuing education program. The results of an investigation of the effects of motivation and classroom environment on student satisfaction are presented.

Introduction

"Continuing education" at the university level has evolved to embrace the notion that learning is a lifetime endeavor. In addition to serving degree-seeking students, noncredit continuing education classes are offered to meet ongoing professional and personal educational needs and are a significant part of university outreach efforts across the nation.

At a time when institutions of higher education are faced with greater demands for accountability and dwindling resources to fund a myriad of educational programs, continuing education units are being called upon to produce tangible evidence that they are meeting significant needs. Continuing educators are also facing funding cutbacks and the administrators are being required to consolidate and prioritize programs.

To some degree, performance can be quantified by such measurements as numbers of students served and programs provided. Though these are important indicators of performance, more adequate measures of program effectiveness relative to the quality and responsiveness of services are needed. Such additional measures are of crucial importance to educators if they are to meet the demands for greater accountability and effectively set objectives and priorities for the future.

Review of Literature

The need to measure program effectiveness in higher education has resulted in the development of a number of program performance measures and considerable interest in student outcomes such as achievement and satisfaction (Bean & Bradley,1986; Pike, 1991). In adult and continuing education, progress has been limited because of inherent difficulties in assessing nontraditional programs and students. Much of the research efforts thus far have been dominated by a search for factors that determine persistence (Aitken, 1982; Anderson & Darkenwald, 1979; Garrison, 1985). In terms of noncredit programs where students are not seeking an easily identifiable, long-term goal however, the concept of persistence has limited applicability. Given this limitation as well as a program in which there are no grades or academic credit, student satisfaction may be viewed as an especially appropriate criterion for measuring program effectiveness.

While measures of satisfaction vary a great deal in the models used and in the extent of developmental effort, there has been a sustained effort at evaluating student satisfaction in terms of classroom instruction (Urdang, 1982; see Rosenblum & Darkenwald, 1983). Investigators have also conceptualized student satisfaction as being related to multiple domains. In addition to instruction, they have examined other aspects of satisfaction with the college experience such as institutional policies and procedures, physical conditions, the social environment, and institutional climate (American College Testing Program, 1992; Betz, Klingensmith & Menne, 1969; Carden, 1978; Hendry, 1983; Mangano & Corrado, 1979; Pace, 1964 & 1979).

Research on satisfaction in higher education has also focused on the congruency between student and the college environment, and a number of studies suggest that discrepancies in perceived self-college similarity are significantly related to dropout and dissatisfaction. (Holland, 1973; Morstair, 1977; Nafziger, Holland, & Gottfredson, 1975; Pervin, 1967; Pervin & Rubin, 1987). Researchers such as Hearn (1985) have also found that the processes of satisfaction formation are not uniform across groupings of students by academic major and gender.

Several researchers in higher education have hypothesized that the interactional process experienced by students within the classroom itself, has a profound effect on learning and achievement. (DeYoung, 1977; Ennis, et al., 1989; Menges & Kulieke, 1984). Their results suggest that students have clear expectations about their classes, and an experience in the classroom that is incongruent with expectations leads to dissatisfaction.

Purpose

The purpose of the study was to determine whether certain motivational and classroom environment factors have an effect on student satisfaction. The functional relationships between motivation, perceived classroom environment, and student satisfaction, were investigated for each of three major curricular groups: arts and leisure programs, personal development programs, and professional development programs. Besides the three curricular groups, additional variables that may affect satisfaction as an outcome were investigated. These included student characteristic

variables of gender, age, ethnicity, and level of education, and contextual field variables such as the size and length of class, and the experience of the teacher.

Research Questions

The first question of the study was designed to investigate whether it was possible to classify students into the three curricular groups, based on their characteristics, reasons for participation, and perceptions of their classroom environment.

The second question concerned itself with differences in student satisfaction. Specifically, it investigated whether students differed significantly in their perceptions of satisfaction when grouped by curricular offering.

Finally, the study sought to determine whether there was a set of variables that could explain significant amounts of variance in student perceptions of satisfaction.

Methodology

Subjects

A stratified random sample of the population was studied. The population was stratified by course curricular group, length, and size. Data was collected in the classroom from students enrolled in noncredit courses at the College of Continuing Education and Community Service at the University of Hawaii. Survey responses were entered into a database which provided various administrative reports and a summary of the satisfaction survey by class for ongoing program management. Responses from 1180 students were subsequently utilized in the analysis.

It should be noted that the noncredit program presented an unusual sampling problem. Unlike most collegiate programs, it consists of courses of varying lengths and dates. Although each noncredit term consists of 15 weeks, courses are scheduled throughout the term and do not begin and end uniformly. Additionally, registration for classes begins approximately three weeks prior to the start of the term and is continuous, with no specific enrollment period. Given the nature of the program and the fact that the survey instruments were administered in the classroom, it was necessary to utilize a computerized sampling frame which was based upon estimated enrollment.

Instrumentation

This investigation sought to integrate constructs and evaluative structures developed in three streams of research. Motivational factors were evaluated by the Education Participation Scale (Boshier, 1991), a factor-analytic measure of motive for attendance which measures the extent to which students participate in order to: (1) improve communication skills (COM), (2) socialize with others (SOC), (3) obtain more education and training (EDUC), (4) advance or maintain their professional careers (ADV), (5) enhance the quality of their family life (FAM), (6) participate in meaningful and enjoyable activities (STIM), and (7) satisfy cognitive interests (COG).

Classroom environment factors were measured by the Adult Classroom Environment Scale (Darkenwald 1987) which measures environmental factors in the learning environment including: (1) the amount of student involvement in the learning situation (INVL), (2) the opportunities for affiliation with others (AFFL), (3) the level of teacher support (SUP), (4) the emphasis on task completion (TASK), (5) the orientation towards personal goals (PGOAL), (6) the organization and clarity of instruction (ORG), and (7) the amount of student influence (INFL).

Student satisfaction was evaluated by the Dimensions of Adult Student Satisfaction (Hendry, 1983), which measured five dimensions of student satisfaction: (1) satisfaction with program quality; satisfaction with institutional climate as measured by the quality of relations with (2) staff, and (3) students; (4) satisfaction with support services; and (5) satisfaction with physical facilities.

Principal components factor analysis was used to verify the stability of the factor structure of each instrument, and varimax orthogonal rotation was used to produce the final structure. Internal consistency reliability evaluations were conducted for all three instruments. The overall reliability (alpha) was .96 for the Dimensions of Adult Student Satisfaction (DASS), .92 for the Educational Participation Scale (EPS), and .90 for the Adult Classroom Environment Scale (ACES).

Statistical Analysis

Stepwise discriminant function analysis was utilized to determine whether students could be classified into the three curricular groups. The discriminant analysis procedure took the seven EPS

subscales, the seven ACES subscales, and the four student characteristic variables in combination to determine whether students could be classified into curricular groups. Analysis of variance was used to evaluate the null hypothesis relative to significant differences in dimensions of satisfaction among curricular groups, followed by appropriate multiple comparison tests. To investigate the question concerning the predictive validity of selected variables on student satisfaction, stepwise multiple regression analysis was utilized.

Results

Curricular Group Classification

As reported in Table 1, the discriminant function analysis found that a significant separation was possible among the three curricular groups. The separation was based on the utilization of two functions which produced a significant difference beyond the $p \leq .01$ level.

TABLE 1

Canonical Discriminant Function: Three Group Solution (N = 1036)

FUNCTION	% OF VARIANCE ACCOUNTED FOR	CANONICAL CORRELATION	WILKS' LAMBDA	CHI-SQ	DF	SIGNIF
1	72.8	.6294	.4850	742.36	30	.00**
2	27.2	.4437	.8032	224.90	14	.00**

** $p \leq .01$

The first canonical function accounted for 73% of the variance, and the second accounted for the remaining 27%. The canonical correlation, an indicator of a function's ability to discriminate among groups was .63 for Function 1, and .44 for Function 2.

Each of the selected variables was entered in stepwise fashion to evaluate its potency in making the separation between groups. The stepwise procedure reported in Table 2 identified 15 variables as predictors, and rank ordered them in terms of importance in separating the groups. Motivation variables appeared to be the most potent discriminators in separating the groups. Significant

classroom environment variables which were entered included emphasis on task, orientation towards personal goals, level of teacher support, and the amount of student involvement and influence in the learning situation. All four student characteristic variables were identified as significant predictors and included student age, ethnicity, gender, and education.

TABLE 2

Summary of the Stepwise Discriminant Function Procedure Using EPS, ACES and Student Characteristic Variables to Define Curricular Groups (N = 1036)

STEP	VARIABLE (SCALE)	WILKS' LAMBDA	SIGNIF	STANDARD CAN COEF FUNC 1	STANDARD CAN COEF FUNC 2
1	ADV (EPS)	.81	.00**	-.67	-.64
2	COM (EPS)	.70	.00**	-.66	.75
3	SOC (EPS)	.61	.00**	.37	-.32
4	FAM (EPS)	.56	.00**	.19	.53
5	TASK (ACES)	.54	.00**	.22	-.13
6	COG (EPS)	.53	.00**	.15	.21
7	STUDENT AGE	.52	.00**	.24	-.07
8	STIM (EPS)	.51	.00**	.25	-.11
9	PGOAL (ACES)	.51	.00**	.27	.08
10	SUP (ACES)	.50	.00**	-.13	-.25
11	ETHNICITY §	.49	.00**	-.01	.25
12	STUDENT GENDER	.49	.00**	.14	.06
13	INVL (ACES)	.49	.00**	-.09	.12
14	INFL (ACES)	.49	.00**	-.06	-.08
15	EDUCATION	.49	.00**	-.03	-.10

§ Caucasian/Not Caucasian
** $p \leq .01$

The most accurate membership prediction was for the arts and leisure group (77%), followed by the professional development (69%), and the personal development (57%) groups.

Differences in Satisfaction Among Curricular Groups

A summary of the mean scores from the ANOVA and Scheffe for each of the subscales of the Dimensions of Adult Student Satisfaction by curricular group, is presented in Table 3.

TABLE 3

A Summary of the Mean Scores from the ANOVA and Scheffe for Each of the Subscales of the Dimensions of Adult Student Satisfaction by Curricular Group

CURRICULAR GROUP	ARTS/LEISURE N=475	PERSONAL N=408	PROFESSIONAL N=251
DIMENSIONS OF ADULT STUDENT SATISFACTION:			
Program Quality	48.1	46.2	46.7
Staff Relations	39.7	38.4	39.2
Student Relations	12.3	11.4	11.5
Support Services	24.3	23.4	23.4
Physical Facilities	30.1	28.7	28.9

Note. Boxed values indicate groups that were significantly different at the $p \leq .05$ level.

The results of the analysis indicated that there were significant differences among curricular groups on all five of the satisfaction subscales. Although there were no significant differences between the personal and professional development groups on any of the subscales, the Scheffe test and subsequent examination of means revealed that with the exception of satisfaction with staff relations, the arts and leisure group had significantly higher satisfaction scores than each of the other two groups. For the staff relations subscale, the arts group had significantly higher satisfaction scores than the personal development group, while there were no significant differences between the arts and professional groups.

Predictors of Satisfaction

Multiple Regression Analysis was used determine whether the selected set of variables (motivation factors, classroom environment factors, class size and length, and teacher experience), could explain significant amounts of variance in student satisfaction. For each of the three

curricular groups, five stepwise multiple regression procedures were conducted utilizing each of the satisfaction subscales. Table 4 presents the results of the analysis indicating significant predictors for the various dimensions of student satisfaction for each of the three curricular groups. The number of steps required to produce the prediction equation, the predictor variables, *R*, *R-square*, B values, and Beta weights are reported. Taken together, the first two variables in the equations developed for all groups accounted for most of the total variance of the predictors of satisfaction, with variables entered in subsequent steps accounting for 2% or less of the variance.

In terms of student satisfaction with program quality, organization and clarity entered first for all curricular groups. Teacher support was entered at the second step for the arts and personal development groups, while affiliation was entered for the professional group. In terms of student satisfaction with staff relations, organization and clarity entered first for the arts and professional groups, while personal goal attainment entered first for the personal development group. Personal goal attainment entered at the second step for the arts group, teacher support entered for the personal development group, and affiliation entered for the professional group.

Affiliation entered into the prediction equation at the first step for student satisfaction with student relations for all groups. Personal goal attainment entered at the second step for the arts group, while organization and clarity entered for both the personal and professional development groups. Although class length was a variable included in the prediction equations of all groups, an inverse relationship occurred only for the professional group. For this group, class length had the effect of lowering satisfaction scores while for the other groups it had the effect of raising scores.

For all groups, organization and clarity was entered into the prediction equation at the first step for student satisfaction with support services. For the personal development group, personal goal attainment entered at the second step while for the professional group, affiliation entered second. No additional variables were included for these groups after the second step. For the arts group, communication improvement motive entered at the second step, followed by personal goal attainment.

TABLE 3

The Results of the Stepwise Multiple Regression Analysis Indicating Significant Predictors for Each of the Five Dimensions of Adult Student Satisfaction (DASS) by Curricular Group

GROUP	ARTS/LEIS N = 462	*R*	R^2	B	BETA	PERSONAL N = 398	*R*	R^2	B	BETA	PROFESSONAL N = 239	*R*	R^2	B	BETA
Satisfaction with Program Quality															
STEP															
1	ORG (ACES)	.75	.56	.76	.47	ORG (ACES)	.67	.45	.57	.36	ORG (ACES)	.68	.46	.90	.51
2	SUP (ACES)	.77	.60	.56	.22	SUP (ACES)	.71	.50	.66	.25	AFFL (ACES)	.69	.48	.16	.10
3	PGOAL (ACES)	.78	.61	.36	.15	PGOAL (ACES)	.72	.52	.47	.21	TASK (ACES)	.70	.49	.49	.11
4	LENGTH	.79	.62	.17	.09	STIM (EPS)	.73	.53	-.18	-.10	SUP (ACES)	.71	.50	.34	.13
5	INVL (ACES)	.79	.62	.18	.07	(Constant)			4.78		(Constant)			1.12	
6	SOC (EPS)	.79	.63	.08	.06										
	(Constant)			-4.25											
Satisfaction with Staff Relations															
STEP															
1	ORG (ACES)	.53	.28	.36	.23	PGOAL (ACES)	.44	.20	.67	.31	ORG (ACES)	.49	.24	.61	.34
2	PGOAL (ACES)	.59	.35	.69	.29	SUP (ACES)	.48	.23	.37	.15	AFFL (ACES)	.55	.30	.32	.20
3	INVL (ACES)	.60	.36	.29	.12	TASK (ACES)	.50	.25	.50	.11	PGOAL (ACES)	.56	.30	.32	.15
4	FAM (EPS)	.61	.37	.19	.09	INVL (ACES)	.51	.26	.36	.15	(Constant)			4.85	
5	SIZE	.61	.38	.05	.08	INFL (ACES)	.52	.27	-.21	-.10					
6	SUP (ACES)	.62	.38	.31	.12	(Constant)			11.27						
	(Constant)			-2.60											

TABLE 3 (Con't)

The Results of the Stepwise Multiple Regression Analysis Indicating Significant Predictors for Each of the Five Dimensions of Adult Student Satisfaction (DASS) by Curricular Group

GROUP	ARTS/LEIS	*R*	*R2*	B	BETA	PERSONAL	*R*	*R2*	B	BETA	PROFESSONAL	*R*	*R2*	B	BETA
Satisfaction with Student Relations															
STEP															
1	AFFL (ACES)	.52	.28	.20	.32	AFFL (ACES)	.59	.35	.27	.44	AFFL (ACES)	.56	.31	.23	.42
2	PGOAL (ACES)	.57	.32	.15	.18	ORG (ACES)	.61	.38	.07	.13	ORG (ACES)	.59	.34	.16	.26
3	ORG (ACES)	.58	.34	.09	.17	LENGTH	.62	.39	.08	.12	SOC (EPS)	.60	.36	.09	.20
4	SOC (EPS)	.60	.36	.05	.13	PGOAL (ACES)	.63	.40	.09	.11	COM (EPS)	.62	.38	-.10	-.20
5	LENGTH	.61	.37	.08	.11	(Constant)			1.18		LENGTH	.63	.40	-.09	-.14
	(Constant)			.59							(Constant)			1.70	
Satisfaction with Support Services															
STEP															
1	ORG (ACES)	.46	.22	.28	.31	ORG (ACES)	.45	.20	.28	.30	ORG (ACES)	.52	.27	.52	.46
2	COM (EPS)	.49	.24	.20	.21	PGOAL (ACES)	.49	.24	.30	.24	AFFL (ACES)	.54	.30	.18	.18
3	PGOAL (ACES)	.51	.26	.26	.19	(Constant)			7.86		(Constant)			1.08	
4	INVL (ACES)	.52	.27	.17	.13										
5	ADV (EPS)	.52	.28	-.08	-.11										
	(Constant)			4.41											
Satisfaction with Physical Facilities															
STEP															
1	ORG (ACES)	.34	.12	.40	.08	TASK (ACES)	.28	.08	.79	.22	AFFL (ACES)	.35	.12	.38	.24
2	TEACHER EXP	.38	.14	-.12	.03	PGOAL (ACES)	.34	.12	.38	.21	ORG (ACES)	.41	.16	.42	.24
3	PGOAL (ACES)	.40	.16	.29	.11	(Constant)			17.11		INFL (ACES)	.43	.18	-.28	-.14
4	FAM (EPS)	.42	.17	.20	.08						SIZE	.44	.20	-.05	-.14
5	SIZE	.43	.18	.05	.02						(Constant)			12.35	
	(Constant)			7.95											

In terms of student satisfaction with physical facilities, the three curricular groups differed in the variables entered at all steps of their respective prediction equations. Organization and clarity along with teacher experience entered in the first two steps for the arts group, task orientation and personal goal attainment entered for the personal development group (with no other variables entering for this group), and affiliation and organization and clarity entered for the professional group. Although class size was a variable included in the prediction equations of both the arts and professional development groups, an inverse relationship occurred for the professional group. For the arts group, larger class size had the effect of increasing satisfaction with physical facilities, while the inverse was true for the professional group.

Discussion

Introduction

This study provided a laboratory for studying learners who voluntarily participate in the learning experience, and who are primarily motivated by the desire to satisfy the need to know, unaffected by grades or the requirements of a degree program. Although this study empirically validated Boshier's (1991) Education Participation Scale and Darkenwald's (1987) Adult Classroom Environment Scale with a relatively large sample of students from Hawaii, the emphasis of the investigation was on the application of this research to formulating a better understanding of student satisfaction. The analyses focused on the motivations students bring to the learning situation and on defining the situation itself by the various components of the classroom environment, and sought to explore the impact these variables may have on satisfaction.

Student Characteristics and Motivation

The first phase of this study developed a basis for classifying a student body that was participating in a program with a very broad curriculum. By utilizing the concepts developed in typological research on the adult learner, it advanced the findings of previous studies by first dividing students into curricular groups, and then specifying the demographic characteristics and motives for participation that defined these groups. It was assumed that this classification would

provide a means for better understanding the characteristics and motivations of a diverse student population, and thereby provide important typological information for program administrators.

The findings revealed that each curricular group had a distinctive set of student characteristics and reasons for participation, and no single variable adequately described any one group. This is similar to findings reported by Morstain and Smart (1977), and confirms their conclusion that grouping adult students on the basis of demographic characteristics alone lacks precision in describing them. Motivations in combination with student characteristics were powerful discriminators among groups, and the results showed significant variation across different groupings of learners.

In terms of motivation, the results validated Boshier's (1991) adult learner typology and the effectiveness of the Education Participation Scale in differentiating among a diverse group of students with varying reasons for participating in continuing education. The findings indicated that the Education Participation Scale was useful in defining the salient differences in the motivations for participation among defined curricular groups, and provided constructs for understanding student motivation that could be related to variation in satisfaction in subsequent analyses. The findings also provided some indication of the relative importance of these constructs or factors in discriminating among the three curricular groups.

Classroom Environment

Much of the research in the field has focused on the identification of the characteristics of students who participate in educational activities, and on the development of psychometrically sound instrumentation for measuring the reasons for their participation. Almost no research in adult education has focused on understanding the classroom environment and the environment's impact on outcomes such as satisfaction. Utilizing psychometrically sophisticated instruments, this study was successful in relating the interaction of the adult learner in a classroom environment to the outcome of satisfaction, and therefore contributes a unique perspective for educators and administrators in the field.

Just as the Education Participation Scale was useful in defining the salient differences in motivations for participation among defined curricular groups, this study demonstrated the usefulness of the Adult Classroom Environment Scale in measuring variability in students' perceptions of their classroom environments among students in the three curricular groups. The results indicated that students in each curricular group had discriminating characteristics and patterns of motivation, and preferred particular kinds of classroom environments which emphasized a different mix of the environmental domains conceptualized by Moos (1976) and Darkenwald (1987). The findings also provided a conceptual framework for understanding the various dimensions of the classroom environment and some indication of the relative importance of these dimensions in discriminating among the three curricular groups.

Student Satisfaction

The results of this study confirmed Hendry's conceptualization of the multi-dimensional nature of satisfaction. Although curricular groups shared some similarities which might be expected, the analyses revealed differences among groups, as well as among the various dimensions of satisfaction. Thus, the findings give considerable theoretical support for viewing satisfaction as a complex phenomenon. The findings also suggested that the development of satisfaction is not uniform across curricular groups, and given the differences in characteristics, motivations, and classroom environments among the groups, it would appear that satisfaction is specific and complex, and therefore a simple uni-dimensional conception is inadequate.

The results confirmed previous findings in the literature (Bean and Bradley, 1986; Pervin, 1967; Pervin & Rubin, 1987) which suggested a significant relationship between student attributes and satisfaction. Previous studies have indicated that learning environments may have differential impacts on students (Hearn, 1985; May, 1985; Morstain, 1977), but little research has been done which has linked specific dimensions of the classroom environment to specific indices of student satisfaction. For example, findings from this investigation suggested that classes that emphasized organization and supportive student/teacher relationships, had a positive impact on student

satisfaction with program quality. However, the results also indicated that some emphasis on all environmental domains facilitates positive outcomes and as suggested by Moos (1980), a single-minded emphasis on only one domain may have negative effects. For instance, while organization and teacher support may be of key importance in the learning situation, class discussions and other such opportunities for students to interact with one another may also be important components in a satisfying learning experience.

The findings also suggested that certain types of learning environments may be more satisfying to students with certain types of learning motivations, who seek to satisfy their needs in particular kinds of classes. For example, while emphasis on task may encourage cognitive growth for some students participating in personal development classes, it may have a negative impact on other students who may be participating in leisure activities for social purposes.

The results validated the importance of understanding the classroom environment, and suggested that such an understanding could be a useful tool in helping teachers understand the field dynamics of their classrooms from the students' viewpoint. While teachers may have little control over who they teach and such variables as scheduling and logistical arrangements, they do have the opportunity to improve the environment of their classroom and in doing so, may significantly improve the learning experience of their students. The relative importance of the classroom environment on student satisfaction suggests that what the student experiences in the classroom may have such a profound influence on satisfaction that it may be possible to enhance satisfaction through purposeful practices designed to improve the quality of the classroom environment.

While the findings of this study confirmed some of the assumptions commonly held by practitioners in the field, it also pointed towards ways that might improve the quality of the educational experience provided to students. Fundamentally, the findings revealed that there can be no substitute for providing adults with a learning experience that is well-organized and clearly delivered. The findings suggested that students value the opportunity to interact with others while learning, even in instances in which they may be participating for career and job-related purposes

rather than for social reasons. Additionally, the findings identified some of the more subtle components that may be essential ingredients for a satisfying learning experience, and may have the potential for assisting educators in making more discriminating decisions about the design and delivery of education programs. These include other components of the classroom environment such as the support and encouragement the teacher directs towards students, the emphasis placed on task and learning objectives, and the extent to which students can pursue individual goals, influence course content, and are actively involved in class activities. The findings also suggested that contextual or situational variables such as class length and size, and the experience of the teacher, may have a significant impact on the learning experience.

This investigation shifted the analytical emphasis away from general student demographics and classification of motives to focus attention on what needs learners might hope to satisfy by participating in courses, how learners perceive their learning environments, and an indication of how environmental components in interaction effect the perception of value gained from participation. While it was limited to the measurement of satisfaction and was not able to assess the impact of other outcomes of participation, it was successful in relating perceived components of the environment to measures of student satisfaction with the learning experience, and in so doing, provides insights into how satisfaction occurs, and how students' perception of satisfaction is inhibited or enhanced within the classroom environment.

Recommendations

Many adult and continuing education programs are self-supporting and so the bottom line is that sufficient revenues from course fees must be generated to cover the expenses of providing the programs. However, the measurement of program effectiveness must always move beyond this basic criterion to the learner, and such considerations as his or her feelings of satisfaction with the learning experience. Our success as educators and administrators depends upon our ability to identify and meet the needs of a wide spectrum of learners. Programming that is driven solely by its ability to generate income overlooks important needs and the fundamental aesthetics of learning.

This study demonstrated that collecting data on students is within the reach of most organizations and even if carried out on a limited basis, can provide meaningful information on program effectiveness. Particularly for noncredit programs where there are few admission requirements and forms to fill out prior to attendance, information that may be collected on students is often overlooked. More work is needed to help administrators to not only identify the salient characteristics of their particular student population, and the relationship those characteristics may have to the classroom experience and satisfaction—but also in assisting them in developing feasible ways for collecting and managing data.

Additional research might focus on defining dimensions of satisfaction that are appropriate to target populations. That is, additional work is needed on developing indices of satisfaction that differentiate among and are appropriate for, the broad spectrum of learners and learning environments in higher education. Additionally, the interrelationships among the various dimensions of satisfaction need exploration. So for instance, future studies might seek to determine whether dissatisfaction with support services has an adverse effect on satisfaction with program quality. Further, research on how satisfaction with an experience might affect future expectations and participation is needed to assess the impact of outcomes on future experiences.

Finally, given the fact that at least for the present investigation, measurable constructs were related to an important and meaningful dependent variable, further studies with students in other environments and institutions are called for in order to extend and confirm these important findings.

Implications for Practice

Evaluating program effectiveness is difficult in higher education because of the complexities involved. However, educational institutions do formulate goals and objectives, and become deeply committed to them. They are also held accountable by Federal agencies, legislators, governors, state coordinating bodies, boards of trustees, and the public. Therefore, the problem of measuring performance must be solved in ways that can yield meaningful results for administrators, educators, and the various constituencies they serve.

While there is no one methodology or single criterion that will allow us to absolutely measure the effectiveness of the programs we provide, we can assess important outcomes like student satisfaction. We can use the results of these analyses to evaluate the strengths and weaknesses of our programs, and to guide us in effecting improvements that will be of benefit to the learners that we serve. If we are able to understand how we may have gotten to where we are today in satisfying the needs and aspirations of our students, then perhaps we will have the vision and inspiration for contemplating what we might yet become, and where we might go in the tomorrow's ahead of us.

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