The Role of Instructional Factors in Student Engagement
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Abstract
Student engagement is an important predictor of student achievement. While student engagement can take many forms, the aspect of engagement that faculty have the most influence on is course engagement. Course engagement is a multifaceted construct and includes four distinct types of engagement: skills, participation/interaction, emotional, and performance engagement. Handelsman and his colleagues (2005) developed a student course engagement questionnaire (SCEQ) to measure each of those dimensions.

This study examined instructional factors that can contribute to course engagement. We administered the SCEQ to all students enrolled in psychology courses at UNK at the end of the Fall semester, 2006. We found that course engagement was more likely to occur in small classes, discussion classes, classes where the instructor was responsive to student questions, assigned effective aids for learning, encouraged students to seek assistance and knew most of the students’ names. In addition we found that emotional engagement and participation engagement were greater for intrinsically motivated students.

These results provide practical methods for meeting a variety of student needs that have previously been shown to increase engagement, including students’ need for relatedness - by encouraging them to seek assistance and knowing their names, competence - by assigning effective learning aids, and autonomy - by encouraging intrinsically motivated activities.

Family, community, culture, and educational context have all been shown to influence student engagement. Most of the research on student engagement among college students has focused on educational practices, student expectations, and peer influences. An additional area that needs examination is the role personality plays in student engagement. Measures of locus of control, openness to experience, conscientiousness and extraversion may be important predictors of engagement.

References


Promoting Student Engagement in the Classroom

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The concept of student engagement has received considerable attention as a possible solution to declining academic motivation and achievement. According to Fredricks, Blumenfeld and Paris (2004) there are historical, economic, theoretical and practical reasons for the recent focus on student engagement. From the historical perspective, educational institutions can no longer assume that those admitted to their ranks are motivated to take advantage of what is offered. From an economic perspective, our global, rapidly-evolving economy requires workers who can think critically, adapt to change, and solve problems. To insure that our educational institutions are meeting these challenges, colleges and universities have been required in recent years, by a variety of governmental and educational sources, to identify whether they are providing students with the type of educational experiences students expect, as well as the opportunities to attain the occupational and personal benefits students desire (Involvement in Learning Study, 1984).

Motivations for students to attend college vary widely, but researchers have identified a number of reasons that typically motivate students to devote the considerable personal and financial resources necessary to obtain a college degree (Astin, 1985; Kuh, Schuh, &Whitt, 1991). Traditional first year students tend to cite future financial well-being and ability to engage in leisure activities as their primary motivations for attending college (Astin, 1985). However, as students progress further into their educational programs, they often identify additional motivators for continuing their education, including moral, emotional and cognitive development; quality family life; and personal preparation for competence in their future occupation. (Astin, 1985, Kuh et al., 1991). As colleges and universities prepare current students for future opportunities and compete for potential incoming students, they are being called upon
to quantifiably identify whether students are engaging in educational practices that are preparing them for a dynamic workplace and for engagement in an increasingly diverse world (Fredricks et al., 2004; Pascarella, Edison, Nora, Hagedorn & Terezini, 1996).

Researchers have identified an array of factors related to student personal and occupational success during the college years and upon entry into the workforce after graduation (Astin, 1977; Astin, 1993; Kuh, 1995; Pascarella & Terenzini, 1991). Students experience statistically significant increases in general knowledge and knowledge within their major (Astin, 1993). They experience increases in personal competence, verbal and quantitative skills and cognitive complexity; all factors which greatly aid in success in one’s occupational, personal, and social life (Astin, 1993; Kuh, 1995; Pascarella & Terenzini, 1991). Students also, in general, exit college with increases in autonomy, social maturation, aestheticism and awareness of interests, values, aspirations and religious views; all of which are believed to foster opportunities for success in the occupational and personal realm (Astin, 1977, Astin 1993). Finally, students demonstrate significant decreases in characteristics such as irrational prejudices, political naiveté, and dogmatism (Pascarella & Terenzini, 1991). It is particularly important to note that the changes observed in students appear to be particularly related to the college experience, as their personal, emotional and cognitive gains far exceed those seen in non-college educated peers and thus cannot be explained merely by normal maturational processes (Pascarella et al., 1996). Colleges and universities aid in the development of people who have high cognitive abilities, highly developed personal and professional skills, increased personal direction, and social understanding that is amicable to the increasing diversity in local, national and international communities (Astin, 1993; Pascarella & Terenzini, 1991).
The 1980’s brought about a paradigm shift in academics’ views of the factors that constitute excellence in post-secondary education (Koljatic & Kuh, 2001). Previously, the quality of education provided by an institution was thought to be inextricably linked to the institution’s resources and reputation. However, the Involvement in Learning Study (The Study Group on the Conditions of Excellence in Higher Education, 1984) challenged this view by asserting that quality of education should produce direct links between good educational practices and positive outcomes for students (Pascarella, Palmer, Moye & Pierson, 2001; Kuh, 1995; Kuh et al., 1991; Astin, 1993; Pascarella et al., 2006). They suggested that factors considered to be good educational practices should have strong links to post-occupational status and income (Avalos, 1996), growth in leadership and job-related skills (Astin, 1993), development of critical thinking skills and other cognitive measures (Pascarella et al., 2001) openness to diversity and challenge (Pascarella et al., 2006) and increases in student retention (Kuh, 1995; Kuh et al., 1991).

Chickering and Gameson’s (1987) Seven Principles for Good Practice in Undergraduate Education are perhaps the best known and most utilized set of good practices in undergraduate education and are assumed to be valid and appropriate for the promotion of learning as well as student development at virtually all types of institutions (Gameson, 1991, Kuh, Pace, & Vesper, 1997). Indeed, the majority of nationally circulated standardized measures for student engagement (e.g. The National Survey of Student Engagement) are designed to quantifiably measure the degree to which colleges and universities engage their faculty, staff and students in the seven good educational practices (Koljatic & Kuh, 2001). The seven good educational practices identified are (a) student-faculty contact (b) cooperation among students (c) active learning (d) prompt feedback to students (e) time on task (f) high expectations and (g) respect for
diverse students and diverse ways of knowing. Subsequent research has identified three more good educational practices; these include (a) quality of teaching received (b) influential interactions with other students in non-course related activities and (c) a supportive campus environment (Astin, 1993; Pascarella et al., 1996).

Student-faculty contact refers to non-classroom interactions with faculty as well as students’ perceptions of faculty interest in teaching and personal development (Tinto, 1997). A typical survey item designed to quantifiably measure student-faculty contact might ask for information such as the number of times a student has visited informally with a faculty member after class or made an appointment to meet with a faculty member in his or her office (Koljatic & Kuh, 2001). Cooperation among students relates to instructional emphasis on cooperative learning and course related interactions among peers (Koljatic & Kuh, 2001). A typical survey item for measuring cooperative learning would ask about interactions such as having peers proofread a paper or assignment or attempting to explain course material to another student or friend. Active learning refers to types of academic effort and involvement that occur in the classroom or in relation to the class (Tinto, 1997). Measures of active learning include underlining major points in reading, instructor use of higher-order questioning techniques, and computer usage. Prompt feedback to students relates to speed with which professors provide feedback in regards to student performance (e.g. grading tests and quizzes) (Chickering & Gameson, 1987). Time on task is a measure that refers to the degree to which students actively engage in activities related to the classroom experience (Chickering & Gameson, 1987). Time on task includes measures such as time spent reading for class and number of drafts written for a paper. High expectations generally refers to the degree of difficulty for the course, the level of student effort expected, and whether the class has a scholarly/intellectual emphasis. Measures
related to high expectations include factors such as student perceptions of expectations, number of textbooks or readings assigned and the number of term papers (Tinto, 1997). Respect for other students and diverse ways of knowing refers to students’ willingness to be exposed to and be tolerant of viewpoints that differ from their own (Chickering & Gameson, 1987). Factors used to measure respect for other students and diverse ways of knowing include frequency of discussions with people who have different viewpoints on particular subjects or are of a different racial or ethnic background (National Survey of Student Engagement, 2006). Influential interactions with other students refers to quality of interactions with students, non-course related interactions with peers, and cultural and interpersonal involvement (Kuh, 1995). Such interactions could include amount of time spent socializing with peers and attendance of non class-related institutionally sponsored events. Supportive campus environment refers to students’ perceptions of whether their particular institution places value on students’ engaging in supportive interactions with others (Astin, 1993; Pascarella et al., 1996). Such factors include support for incoming freshmen as well as for students struggling with academics or personal issues.

The question that naturally arises when one considers the relevance of good education practices is whether involvement in these activities matters? In other words, do students who engage in good educational practices stay in school, demonstrate greater cognitive, emotional and personal development, and have better incomes and report more personal fulfillment in their lives after college? The answer is a resounding yes; students who are involved in good educational practices appear to get what they want and get what they need out of college (Astin, 1984; Tinto, 1997; Pascarella et al., 1996; Astin, 1993; Avalos, 1996; Pascarella et al., 2006; Johnson, Johnson, & Smith, 1998; Fredricks et al., 2004). Students who engage in good
educational practices are substantially more likely to earn a bachelor’s degree than their peers who do not engage in good educational practices; a factor that is particularly pertinent considering that nearly half of all students who aspire to earn a bachelor’s degree never attain this goal (Astin, 1984; Tinto, 1997; Involvement in Learning Study, 1984). Students who engage in good educational practices are also more likely to have better grades, increased cognitive, emotional and personal growth and are more satisfied with their college experience (Astin, 1993; Avalos, 1996; Pascarella et al., 2006).

Involvement in good educational practices appears to develop skills students need to be successful in their careers and in an increasingly diverse society (Pascarella et al., 1996). Indeed students who engage in good educational practices know, as is so aptly put by the Involvement in Learning Study (1984), “What every educated person should know and needs to know” to be personally and occupationally successful. From freshmen to senior year, college students become less authoritarian, dogmatic, and egocentric. They also demonstrate increases in regards to social, racial and ethnic tolerance and increase in support for individual rights (Pascarella et al., 1996). Engagement in good educational practices magnifies this effect and is strongly related to increases in tolerance for diversity and willingness to accept new challenges (Pascarella et al., 1996).

Classroom practices have an impact on positive educational outcomes (Pascarella et al., 1996; Handelsman, Briggs, Sullivan & Towler, 2005). Cooperative learning in the classroom has been demonstrated to be more productive than the traditional lecture format that tends to foster greater individual learning. Collaborative learning has been shown to produce statistically significant increases in knowledge acquisition and problem solving skills as compared to individual learning (Johnson et al., 1998; Pascarella et al., 1996). Increased teacher clarity and
organization has been demonstrated to increase student participation in the classroom and increase student knowledge acquisition and critical thinking skills. It has also been found that effective teaching, conceptualized as being based on teacher clarity and organization, has a significant influence on student plans to obtain a graduate degree (Pascarella et al., 1996).

Engagement in good educational practices prepares students for post-graduate success (Fredricks et al., 2004; Astin, 1993; Gurin, 1999). As the United States workforce becomes increasingly more diverse in the current global economy, effective workers must be able to apply critical thinking skills in various environments with a vast array of very diverse people (Fredricks et al., 2004). College students who engage in good educational practices report higher income levels and increased satisfaction with their careers as well as with the level of preparation given them by their former institution of higher learning (Astin, 1993). Not surprisingly, students who engage in good educational practices, particularly racially, culturally, intellectually and politically diverse activities, report that they are more successful in their occupations, were well prepared for their occupation, and have higher levels of community involvement than peers who do not engage in good educational practices (Gurin, 1999, Kuh et al., 1991). The results are simple and resounding...engagement matters!

A variety of factors exist that should strongly influence how and why colleges and universities want to identify to what level they are engaging students in good educational practices. Low academic achievement and high attrition rates persist for many students; these factors appear to be substantially influenced by student engagement in good educational practices (Hsieh, Sullivan & Guerra, 2007). As colleges and universities strive to obtain state and federal funding and attract potential incoming students, it is becoming increasingly important that these institutions demonstrate quantifiable evidence that they are providing the
necessary interventions to prepare students for academic and personal success. The Involvement in Learning Study (1984) outlined a number of criteria that could be used to develop reliable and valid indices of student learning and development; these criteria have largely been adhered to by researchers responsible for developing nationally circulated research tools designed to measure practices in good undergraduate education (Kuh, 2001). The Involvement in Learning Study (1984) recommended that little emphasis should be placed on input characteristics (pre-college characteristics such as high school GPA and ACT/SAT scores) and that instead the focus should be on output characteristics (longitudinal data measuring the gains demonstrated in student knowledge, capacities, skills and attitudes over the course of their college career). They also asserted that these improvements needed to occur with established, clearly expressed, and publicly announced and maintained standards; these improvements also needed to be cost effective in the use of student and institutional resources of time, money and effort. Time has proven the wisdom of the Involvement in Learning Study’s (1984) recommendations, as broad based national surveys such as the National Survey of Student Engagement have demonstrated the positive effects of student engagement and the quality of education provided to students by various universities and colleges (Kuh, 2001; Pascarella et al., 2006).

The million dollar question seems to be how colleges and universities foster student engagement? Perhaps the most obvious route, one that is presently being utilized by hundreds of colleges and universities, is to utilize available research tools to identify areas in which they are currently engaging students in good educational practices and areas in which they are lacking (Koljatic & Kuh, 2001). Various researchers have made a number of recommendations about how student engagement may be increased. Perhaps the clearest generalization that can be made is that a students’ interpersonal environment (e.g. frequency and nature of contacts with faculty
and peers) has the greatest impact on student increases in engagement (Pascarella et al., 1996). Providing opportunities and incentives for students to be involved in educationally diverse and purposeful activities (e.g. campus speakers, conversation tables with foreign students) are highly related to increased knowledge acquisition, openness to diversity and other associated cognitive and personal gains (Ewell & Jones, 1993; Koljatic & Kuh, 2001). Creating classroom environments that enhance increased self-efficacy and mastery goal orientation is related to high classroom achievement and increased student efforts directed towards classroom activities (Hsieh, Sullivan & Guerra, 2007; Bandura, 1997). Engaging students in learning activities that are directly related to desired learning outcomes (e.g. utilizing information gleaned from class speaker as test material) promotes enhanced learning and retention of relevant classroom information (Guadalupe, 1996). Many universities have implemented entire learning communities and have developed quality programs designed to assist students who are struggling academically (Tinto, 1997). Given the recommendations, one might assume that the student engagement problems of the 1980’s and 1990’s would have been eradicated by now.

Unfortunately, despite the vast amount of resources, time and energy expended since the initial calls for reform began in the 1980’s, student engagement does not appear to be increasing at a national level (Koljatic & Kuh, 2001). When evidence began to accumulate that engagement was not increasing, it was initially thought that, since a far higher percentage of Americans are pursuing a college education than there were in the 1980’s, that engagement was not increasing because far fewer people currently entering college were as prepared to be engaged students as were the students of the 1980’s (Koljatic & Kuh, 2001; Astin, 1977). However, recent research on the influence of institutional selectivity indicates that student pre-college characteristics apparently have only a small mediating effect on whether students are engaged in good
educational practices throughout their undergraduate careers (Pascarella et al., 2006). Thus, it appears that there remain barriers that prevent students and their institutions of higher learning from engaging in good practices in undergraduate education.

Change is often not easy to accommodate, and researchers have identified that resistance exists on many colleges and universities that inhibit institutional changes designed to promote increases in engagement (Koljatic & Kuh, 2001). Indeed, it has been pointed out that the American university system, which has been ingrained with three centuries of ideas about what constitutes higher education, will not likely be revolutionized in 2-3 decades. Implementation of interventions such as learning communities, living learning centers, extra programs for struggling students, and other interventions are expensive and take time to implement (Pascarella et al., 2006). Various changes in the dynamics of the United States’ colleges and universities have created new challenges that inhibit engagement. Faculty participation in governance and expectations for high academic achievements such as publications serve to reduce the amount of teaching preparation time for faculty. The non-teaching duties have also been criticized by numerous researchers as reducing incentives faculty have to devote the time necessary to be high quality teachers, because notoriety and tenure tend to be earned through academic achievement, not teaching (Involvement in Learning Study, 1984; Koljatic & Kuh, 2001; Pascarella et al., 2006). Technological interventions such as on-line classes may serve to reduce faculty-to-student and student-to-student contact. Many students also spend less time on campus and thus reduce opportunities for engagement in certain types of good educational practices (Pascarella et al., 2006). Increasing engagement on a macro-level can be extremely difficult.

Interestingly, researchers have identified that the vast majority of American post-secondary colleges and universities have multiple sub-environments that have more immediate
and powerful influences on student engagement within their sub-environment than any aggregate institutional characteristic (Pascarella et al., 2006). It is, therefore, reasonable to look to these sub-environments as both instigators and inhibitors of student engagement in good educational practices. Indeed, many departments within universities do a phenomenal job of engaging students in good educational practices (Kuh et al., 1991). All across the nation, students are engaging in the classroom, conducting research, collaborating with one another and faculty, and getting involved in their communities. However, many more students are not engaged. A number of barriers prevent individual professors and departments from engaging students (Pascarella et al., 1996; Kuh et al., 1991; Involvement in Learning Study, 1984). Professors and departments have little control over where students reside, whether students choose to have contact with diverse peers outside the classroom setting or how many racially diverse activities a university holds (Pascarella et al., 1996). Furthermore, many of the teachers who would best be able to facilitate engagement do not teach introductory level classes where engagement is perhaps most important because it aids in student success and retention (The Study Group on the Conditions of Excellence in Higher Education, 1984; Kuh et al., 1991). For professors in many departments, obtaining tenure may even have little or nothing to do with the quality of teaching provided for students.

One may ask then, what may a single faculty member do to help foster engagement? The college classroom remains the focal point of the educational structure of institutions of higher learning and thus serves as the focal point for student experiences (Tinto, 1997). Given the relatively recent increases in the number of part-time students enrolled in colleges and universities, many of whom work many hours and have families, the college classroom is, for some students, the only place where engagement regularly occurs. Many engagement
researchers adhere to the principle that, in order to most effectively promote engagement, faculty must embrace the principles underlying the good educational practices that emphasizing the central theme of the classroom as student learning and what learners do in contrast to instruction and what teachers do (Koljatic & Kuh, 2001).

At the micro level, faculty have a great deal of control over the engagement students have in their classrooms. Indeed, students’ perception of the organization, clarity and expectations of their educational environment is a strong predictor of their engagement levels (Koljatic & Kuh, 2001). Learning has often been thought to be a spectator sport in which faculty talk dominates the environment (Tinto, 1997; Nunn, 1996). Some researchers report that faculty talk dominates 80%-98% of the time in most college classrooms, conventional wisdom would suggest that in such an environment collaborative learning and active learning are quite limited (Tinto, 1997; Nunn, 1996). Researchers have identified that students who engage in collaborative learning tend to invest more quality time in learning and enjoy these experiences more than the traditional lecture mode, which tends to favor assertive students who dominate the 10%-20% of class time vested towards student feedback (Tinto, 1997). Given the fact that student engagement is a vitally important component of the learning process, it is reasonable to ask the question of how to measure and increase student engagement in the classroom setting.

Recent research has identified the presence of four distinct forms of engagement in the classroom setting: they are (a) skills engagement (b) participation engagement (c) emotional engagement and (d) performance engagement (Handlesman et al., 2005). Skills engagement refers to the degree to which students practice skills that promote learning; examples include taking notes in class, studying regularly and doing class readings. Participation, or interactive, engagement refers to engagement that occurs in relation to others. Examples of participation
engagement include asking questions in class, going to a professor’s office to talk about class and participating in small group discussions. Emotional engagement refers to the degree to which students internalize class information and experiences. Examples of emotional engagement include students finding ways to make course materials relevant to their lives, thinking about course materials between class sessions and desiring to learn the material. Performance engagement refers to student engagement directed towards performance on graded materials and include factors such as importance students place on getting good grades and doing well on tests. The four factors of classroom engagement have been reliable indices of student engagement and are obtained through student self report, and have been as reliable as typically used indices such as student GPA and GRE scores (Guadalupe, 1996).

Researchers currently have little knowledge as to how faculty may increase students’ participation in the four types of classroom engagement. The purpose of the current study was to assess what instructional factors play a role in increasing classroom engagement. We were particularly interested in assessing the impact of the role of faculty determined factors (e.g. class size, teaching style, responsiveness to questions) in influencing engagement. We were also interested in assessing the role of student motivation factors (e.g. intrinsic vs. extrinsic motivation) in mediating engagement and whether interactions exist between faculty-determined factors and student motivation factors. We hypothesized that faculty controlled learning environment factors such as small class size and implementation of discussion-based classes would result in increased student engagement. We also hypothesized that instructor activities, such as being responsive to students’ questions and knowing the names of students in their classrooms would also be related to increased engagement. Finally, we hypothesized that intrinsically motivated students would be more engaged than extrinsically motivated students.
Method

Participants

The participants in the study were students enrolled in psychology classes at the University of Nebraska at Kearney in Fall, 2006. We collected data from 665 undergraduate students (226 men, 439 women). Their ages ranged from 18 to 39 years of age, with a mean age of 20.16.

Materials and Procedure

We administered the 27-item Student Course Engagement Questionnaire (SCEQ) developed by Handelsman et al. (2005). The questionnaire measures the four types of course engagement previously identified by the authors, including skills engagement, emotional engagement, participation/interaction engagement, and performance engagement.

Each of the behavioral items on the SCEQ was accompanied by a Likert scale ranging from 1 = not at all characteristic of me to 5 = very characteristic of me. The overall course engagement score was the sum of the 27 items, and the sub-scale scores were the sum of those items measuring each particular type of course engagement. On this questionnaire, the reliability correlations for the student engagement factors ranged from .76 to .82. Discriminant validity of the four factors was demonstrated by low inter-correlations ranging from .26 to .44. We administered the SCEQ during a regular class meeting so that participants completed it when the specific course that they were evaluating was most salient.

To assess intrinsic vs. extrinsic goal motivation, we asked: “If I had to choose between getting a good grade and being challenged in class, I would choose:___. We also asked how
important it was in the course to (a) get a good grade and (b) be challenged, on 5 point scales ranging from $1 = \text{not important}$ to $5 = \text{very important}$.

Faculty members provided information on course dynamics that could influence students' course engagement. We asked faculty members about the type of instructional style they employed (lecture only, lecture/discussion or discussion only). We also asked about heterogeneity of the students in terms of class standing (Freshman, Sophomores, Junior or Senior), indicated by whether the students were mostly from the same group, two contiguous groups, or widely distributed over three or four groups. We also asked faculty members to evaluate their course on several items that relate to the course dynamics that are dependent upon the students who register for the course. Table 1 contains those items. Each of the 5 items on the course evaluation form was accompanied by a 7-point Likert scale ranging from $7 = \text{more than usual}$ to $1 = \text{less than usual}$. Finally, we asked faculty members the percent of students' names they knew. Class size and target audience (service courses vs. courses for psychology majors) were obtained from the course record file. Information on instructional activities was obtained from the regular course evaluation form completed by all students at the end of the semester (see Table 2). Each of the 9 items on the course evaluation form was accompanied by a 5 point Likert scale ranging from $1 = \text{strongly disagree}$ to $5 = \text{strongly agree}$. Students' grades in the course they evaluated were obtained from university records.

Results

Does engagement matter? The results indicated that student engagement, as measured by the SCEQ was positively correlated with the grade the student received in the course, $r(665) = .62, p < .001$. 
Course Characteristics

A small negative correlation was found between classroom engagement and class size, \( r(665) = -0.13, p < .05 \). While significant, class size appeared to have less of an impact on student engagement than did the teaching style employed by faculty members. Students in discussion based classes demonstrated higher levels of overall engagement as measured by the SCEQ (\( M = 98.7 \)) than students in lecture (\( M = 88.1 \)) or lecture/discussion classes (\( M = 89.5 \)), \( F(2, 597) = 8.73, p < .001 \). The specific types of engagement that were responsive to teaching style included: Emotional Engagement, \( F(2, 597) = 3.45, p < .05 \), Participation Engagement, \( F(2, 597) = 15.48, p < .001 \), and Performance Engagement, \( F(2, 597) = 3.63, p < .05 \). In each of these cases, discussion style classes led to greater student engagement. Teaching style did not have an effect on Skills Engagement, \( F(2, 597) = 1.69, p > .10 \).

We expected that students enrolled in courses in their major discipline would be more engaged than students taking courses as a part of the general education program. However, the results indicated that students in general education courses (\( M = 87.9 \)) were as engaged as were students in courses designed for psychology majors/minors (\( M = 89.3 \)), \( F < 1, p = ns \).

There was a significant positive correlation between the instructor's rating of "How conducive was the classroom atmosphere to learning" and student engagement as measured by the SCEQ, \( r(665) = .14, p < .01 \), as well as a small positive correlation between the instructor's rating of participation in classroom discussion and student engagement, \( r(665) = .08, p < .05 \), and a small negative correlation between the instructor's rating of how dependent students were on guidance/assistance and student engagement, \( r(665) = -.09, p < .05 \).

Instructor Characteristics
For the instructor activities listed in Table 1, we found several activities that were positively correlated with student engagement as measured by the SCEQ. The rating of the item "The faculty member is responsive to student questions" was positively correlated with student engagement, $r(610) = .20, p < .01$. The rating of the item: "The faculty member assigns effective aids for learning" was positively correlated with student engagement, $r(610) = .19, p < .01$, as was the item "The faculty member encourages students to seek assistance", $r(610) = .19, p < .01$. Finally, there was a positive correlation between the percentage of names that the faculty member knew and student engagement. $r(610) = .18, p < .01$. None of the other instructor activities identified in Table 1 were significantly correlated with student engagement.

**Student Characteristics**

Student motivation ratings were also significantly correlated with course engagement. A moderate positive correlation was found between the importance students placed on getting good grades and their engagement scores on the SCEQ, $r(665) = .27, p < .001$. An even stronger positive correlation was identified between student engagement and the importance students placed on being challenged in the classroom, $r(665) = .47, p < .001$.

We also analyzed whether differential engagement levels occurred between students who indicated that being challenged in the classroom (intrinsic motivation) was more important than grades (extrinsic motivation) or vice versa. A univariate analysis of variance was conducted with choice (grade or challenge) being the independent variable and overall engagement levels on the SCEQ being the dependent variable. Intrinsically motivated students were significantly more engaged ($M = 93.7$) than were extrinsically motivated students ($M = 88.2$), $F(1,597) = 16.53, p < .001$. Post-hoc analysis revealed that the types of engagement for which intrinsically
motivated students scored higher were Emotional Engagement, $F(2, 597) = 27.69, p < .001$, and Participation Engagement, $F(2, 597) = 12.91, p < .001$, but not Skills Engagement, $F(2, 597) = 2.81, p > .09$, or Performance Engagement, $F < 1$.

Discussion

Summary of the Findings

Student Engagement in the classroom is influenced both by the students' perceptions of their instructor and directly by the instructor's behavior. This finding is consistent with the work of Skinner and Belmont (1993) who demonstrated that several aspects of teacher behavior predicted students' behavioral and emotional engagement. In the present study, students' perceptions that the instructor was responsive to student questions, assigned effective aids to learning, encouraged students to seek assistance, and knew their names all contributed to greater student engagement.

Implications for Educational Practices

The results of this study indicate that there are many ways that instructors can promote course engagement including classroom structure (discussion classes), individuation (knowing student names and keeping class sizes small) and teacher support in the form of being responsive to student questions, encouraging students to seek assistance, and assigning effective aids to learning. These results suggest practical methods for meeting a variety of student needs that have previously been shown to increase engagement, including students' need for relatedness - by encouraging them to seek assistance and knowing their names (Furrer & Skinner, 2003), competence - by assigning effective learning aids (Connell, Spencer, & Aber, 1994), and
autonomy - by encouraging activities that are intrinsically motivating (Patrick, Skinner, & Connell, 1993).

_Implications for Research_

While family, community, culture and educational context have all been shown to influence student engagement (Fredricks et al., 2004), most of the research on student engagement among college students has focused on educational practices, student expectations, and peer influences. An additional area that needs examination is the role personality plays in student engagement. Measures of locus of control, openness to experience, conscientiousness and extraversion may be important predictors of engagement.
References


Table 1

*Questions on the Faculty Members' Course Evaluation Form*

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<tbody>
<tr>
<td>1</td>
<td>To what extent did the students in this course participate in classroom discussion?</td>
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<td>2</td>
<td>To what extent were the students dependent on you for guidance/assistance in completing their coursework?</td>
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<td>3</td>
<td>How intelligent and capable were the students in the class generally?</td>
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<td>4</td>
<td>In general, to what extent did the students follow the rules and procedures required in this course?</td>
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<tr>
<td>5</td>
<td>How conducive was the classroom atmosphere to learning?</td>
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Table 2

*Questions on the Students' Course Evaluation Form*

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<table>
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<tbody>
<tr>
<td>1</td>
<td>The faculty member stimulates thinking</td>
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<tr>
<td>2</td>
<td>The faculty member is enthusiastic about the subject material</td>
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<tr>
<td>3</td>
<td>The faculty member is responsive to student questions.</td>
</tr>
<tr>
<td>4</td>
<td>The faculty member is well prepared for class.</td>
</tr>
<tr>
<td>5</td>
<td>The faculty member explains and clarifies the subject material.</td>
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<tr>
<td>6</td>
<td>The faculty member grades fairly.</td>
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<tr>
<td>7</td>
<td>The faculty member assigns materials that are effective aids to learning.</td>
</tr>
<tr>
<td>8</td>
<td>The faculty member encourages students to seek assistance as needed and is available for assistance and consultation.</td>
</tr>
<tr>
<td>9</td>
<td>The faculty member is knowledgeable about the subject matter.</td>
</tr>
</tbody>
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